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ABSTRACT

As part of a statewide (Massachusetts) evaluation in all areas of education, the reading assessment summarized in this report tested all 9- and 17-year-old students in 31 school districts in an effort to examine student performance statewide as well as in the individual educational regions and communities. This report contains the following information: an overview of the assessment, including a description of the measurement instruments, test administration, sampling design, results, and interpretive activities; a report of statewide results by region; a comparison of Massachusetts results with the nation and the northeast region; a comparison of total test achievement by reporting groups; highlights of the principal and student questionnaires; and a discussion of the interpretations and recommendations of the assessment. Twelve data tables are provided, and appendixes identify regions and kinds of communities in the state's school districts and display item results by reporting group. (NAI)

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Massachusetts Statewide Educational Assessment 1977-78

SUMMARY AND INTERPRETATIONS

READING

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FOREWORD

Since 1974-75, the Statewide Educational Assessment Program has provided Massachusetts citizens with useful information about the quality of education in Massachusetts. The results of four years of the Assessment program have informed parents, students, educators, public officials and employers about statewide patterns of student performance in such areas as writing, mathematics, social studies, science, consumer education and career and occupational development.

During 1977-78, 9- and 17-year-old students were assessed, for the second time, in reading. This report describes the results of this assessment and provides information for the first time on trends in reading performance of Massachusetts students. Readers interested in more detailed technical information about this assessment may obtain a copy of the technical publication by contacting either the Bureau of Research and Assessment or one of the regional offices of the Department of Education.

Also for the first time, this report provides the reader with some interpretations of the meaning and implications of the assessment findings through the concentrated involvement of many educators throughout the Commonwealth. To them, and to the many others whose involvement may not have been explicitly acknowledged, the Board of Education expresses its sincere appreciation.

Finally, it should be pointed out that 31 school systems chose to use the tests and procedures developed for the statewide assessment at the local level. I am pleased to report that, overall, these systems found using this local option highly beneficial.

It is our feeling that this year's assessment reports should find even wider audiences than in the past. I am pleased, therefore, to present this year's Reading assessment findings for review by all interested citizens.

Charles Grigsby
Chairperson
Massachusetts Board of Education

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I. INTRODUCTION

Overview

PURPOSE. The Massachusetts Statewide Educational Assessment is a continuing series of annual evaluations of the knowledge, understanding, skills, and attitudes of Massachusetts public school students. As established by the Massachusetts State Board of Education, the purpose of the statewide assessment is to:

- provide citizens, students, parents, legislators, and educators with useful and accurate information on the quality of education in Massachusetts
- provide state-level decision makers with information necessary for setting educational policy
- help local school systems set their own objectives by providing them with statewide information on patterns of performance and attitudes and strengths and weaknesses of students
- enable local school districts to develop and to implement their own assessments by making statewide assessment procedures available to them.

BACKGROUND. Since 1974, Massachusetts statewide assessments have been conducted in reading, mathematics, writing, social studies, citizenship, science, ecology, consumer education, career and occupational education, foreign languages, decision making, and school climate. The 1977-78 assessment marks a second survey of the reading and career-occupational education areas. In future years, repeated assessments will be made in other learning areas as well in order to examine changes in patterns of student performance.

THE 1977-78 ASSESSMENT. This year, the assessment in the area of Reading was conducted by National Evaluation Systems, Inc. (NES) of Amherst, Massachusetts, under contract to the Massachusetts Department of Education (MDE). Staff of both NES and MDE worked jointly on all aspects of the assessment program. Major program components included the development of the test instruments, administration of the tests to a sample of 9-year-olds and 17-year-olds throughout the state, analysis and interpretation

of the data, and dissemination of the results. In conjunction with the statewide assessment, MDE provided local school districts an opportunity to use the state's custom-designed materials to assess their own students through the Local Assessment Option.

USING THE RESULTS. The purpose of the statewide assessment is to permit a detailed examination of the performance of students statewide and of students in different educational regions and kinds of communities within the state. Categorizing of students in this way allowed personnel in local school districts that did not participate in the local option to gauge the performance of their own students by inference from the results for their own region as a whole or for similar communities. This information can assist these districts in identifying areas of strength and weakness which warrant investigation of the achievement of their students in particular. Those districts that did participate in the local option may use the results presented here to make *direct* comparisons with statewide, regional, and kind-of-community results.

Measurement Instruments

THE TESTS. As in previous Massachusetts assessments, the Reading test was objective-referenced in nature. Such tests are designed to describe achievement with regard to specific objectives; a student's score reflects achievement relative to definite tasks rather than to preset norms.

A Technical Committee composed of a cross section of Massachusetts educators, primarily reading specialists, provided leadership to the test development effort. Separate tests were developed for use at each age level. After a careful review of available materials, the committee identified four major objectives and a total of 49 matching test questions for inclusion on the test for 9-year-olds and 45 matching test questions for 17-year-olds. Eleven test items were identical on the two tests.

A total of 13 of the items on the 9-year-old test and 24 of the items on the 17-year-old test had been previously used at their respective age levels in the 1974-75 Massachusetts assessment. In addition, all of the items were drawn from the materials of the National Assessment of Educational Progress (NAEP). Therefore, examination of scores permits comparisons between current and previous Massachusetts performance, and between performance in Massachusetts, the Nation, and the Northeast Region.

THE OBJECTIVES. Each test item was matched to one of the following four Reading objectives:

1. *Comprehend What Is Read*

- Read phrases, clauses, and sentences.
- Read paragraphs and passages.

2. *Analyze What Is Read*

- Be able to trace sequences.
- Perceive the structure and organization of the work.
- See the techniques by which the author has created his effects.

3. *Use What Is Read*

- Remember significant parts of what is read.
- Follow written directions.
- Obtain information efficiently from graphs and charts.

4. *Reason Logically from What Is Read*

- Draw appropriate inferences from the material that is read and "read between the lines" where necessary.
- Arrive at a general principle after examining a series of details.
- Reason from a general principle to specific instances.

STUDENT AND PRINCIPAL QUESTIONNAIRES. The purpose of developing student and principal questionnaires was twofold: (1) to identify characteristics of students and their schools that might bear a relationship to achievement and (2) to provide a general characterization of students and schools that, in itself, might prove useful in policy decisions. Questionnaires, which were designed by the Technical Committee, were administered to all participating students and to principals of all schools enrolling these students.

Test Administration

To limit the burden placed on school personnel, all test sessions were conducted by trained test administrators. Testing sessions lasting about

75 minutes, included the administration of both the student questionnaire and the test.

All data collection occurred during February and March, 1978. A total of 2,252 9-year-olds representing 93 schools and 2,019 17-year-olds representing 95 schools participated in the assessment.

In order to ensure standardized and valid testing sessions, workshops on test administration procedures were provided for personnel of local school systems participating in the local assessment option.

Sampling Design

PURPOSE. In order to provide information about the achievement performance of students throughout Massachusetts in a cost-effective manner, a sample of students at each age level was tested. The sampling procedure protected the anonymity of all students, schools, and school systems participating in the assessment.

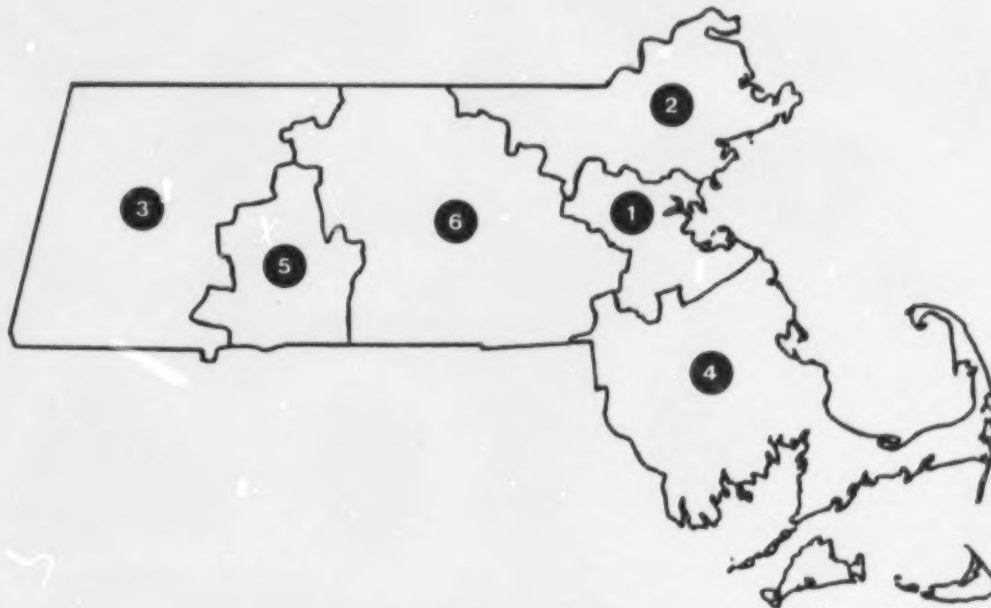
The sample at each age level was designed to be representative of students from schools in each of the six Massachusetts Educational Regions and from schools in four kinds of communities. All students of the appropriate age level were eligible for participation *except* for those who were non-English-speaking or who were handicapped (physically, mentally, or emotionally) in such a way that they could not respond to the test.

STRATIFICATION VARIABLES. The four kinds of community (KOC) were defined as follows:

- *Big Cities:* communities designated as central cities according to the 1970 United States Census. Examples include Boston, Brockton, Haverhill, Holyoke, Lawrence, Worcester.
- *Industrial Suburbs:* suburbs of central cities with below-average family income (\$16,000) and with more than 20% commercial and 7% industrial land use. Examples include Cambridge, Chelsea, Medford, Quincy, Peabody, Waltham, Lee, Monson.
- *Residential Suburbs:* suburbs of central cities other than Boston with above-average family income, and all nonindustrial suburbs of Boston. Examples include Arlington, Braintree, Framingham, Scituate, Walpole, Andover, Dover, Milton, Newton, Chelmsford, Shrewsbury, Wilbraham.

- *Other Communities:* resort towns in the Cape Cod and Berkshire areas, nonindustrial suburbs of cities other than Boston with below-average family income, towns with below-average family income, and communities with a population of less than 2,500. Examples include Barnstable, Chatham, Yarmouth, Stockbridge, Bridgewater, Hadley, Oxford, Stoughton, Newburyport, Taunton, Ayer, Kingston, Orange, Webster, Ashfield, Dunstable, Plympton.

The map below shows the division of the state into regions as defined by MDE. Each region is identified in the key below the map. Appendix A lists all Massachusetts school systems and their respective region and kind of community.



- 1 - Boston Region
- 2 - Northeast Region
- 3 - Pittsfield Region

- 4 - Southeast Region
- 5 - Springfield Region
- 6 - Central Mass. Region

SAMPLE COMPOSITION. Table 1 describes the composition of the sample at each age level in terms of sex, grade, region, and kind of community.

TABLE 1
Sample Composition

Variable	Percentage of 9-Year-Olds	Variable	Percentage of 17-Year-Olds
SEX		SEX	
Male	49.1	Male	46.9
Female	50.9	Female	53.1
GRADE		GRADE	
2nd	0.2	9th	0.4
3rd	10.6	10th	8.1
4th	87.8	11th	61.4
5th	1.4	12th	30.0
REGION		REGION	
1. Boston	26.8	1. Boston	28.0
2. Northeast	20.3	2. Northeast	18.3
3. Pittsfield	8.3	3. Pittsfield	9.1
4. Southeast	17.5	4. Southeast	17.8
5. Springfield	9.4	5. Springfield	10.6
6. Central Mass.	17.7	6. Central Mass.	16.5
KIND OF COMMUNITY		KIND OF COMMUNITY	
1. Big Cities	23.7	1. Big Cities	22.1
2. Industrial Suburbs	11.9	2. Industrial Suburbs	11.7
3. Residential Suburbs	35.3	3. Residential Suburbs	40.1
4. Other Communities	29.1	4. Other Communities	26.1

Reporting the Results

Parts II through V of this report describe the major outcomes of the assessment by reporting:

- performance on objectives
- comparisons of the achievement of Massachusetts students with that of students in the Nation and the Northeast Region
- comparisons of achievement among groups of students within each age group
- highlights of the student and principal questionnaires

In addition, Appendix B contains results on each test item by age, sex, region, kind of community, and, where data is available, in the Nation, the Northeast Region, and the 1974-75 Massachusetts assessment.

More in-depth information about the methodology and outcomes of this year's assessment is available in the Technical Report. Limited copies may be obtained from the Bureau of Research and Assessment and the Regional Educational Centers of the Department of Education.

Interpretive Activities

Part VI of this report represents the interpretations and recommendations based on the results of the assessment. Two activities were conducted to assist in the interpretive process:

- *Benchmark Survey:* A total of 190 reading specialists from schools which participated in the assessment were surveyed to evaluate the assessment results. Their task was to examine student performance in terms of their own "benchmark" of desirable achievement. Given the percentage of students answering correctly each test item, Benchmark Survey respondents indicated via questionnaire whether or not additional emphasis ought to be placed on teaching the students the skills measured by that item.
- *Interpretive Workshop:* The Reading Technical Committee met at a two-day workshop to review all of the results of the assessment. Using their professional judgment and the input of the Benchmark

Survey, they generated a set of interpretive comments and recommendations for action based on the results.

The outcomes of these activities presented in Part VI are intended to be of use to those people—State Board of Education members, legislators, school superintendents, classroom teachers, reading specialists, and laypersons—concerned with providing quality reading programs throughout Massachusetts.

II. MASSACHUSETTS RESULTS BY OBJECTIVE

Understanding the Results

To describe the achievement of Massachusetts 9- and 17-year-olds, the assessment results include performance scores on each test item and on each objective. In this section, results by objective are described for each age level in both graphic and narrative form. The full text of each objective appears on page 11.

Figure 2 displays the average percentage of matching test items answered correctly for each objective by each age group. If, for example, students at a given age level show an average of 72.4% for a particular objective, this means that, on the average, they answered correctly 72.4% of the matching test items.

The achievement scores presented here represent best estimates of the "true" achievement scores which would have been obtained had *all* students in the population, rather than a representative sample, been tested. Statistical techniques indicate that these estimates are most likely to be within two percentage points of the "true" scores of the population. If, for example, the statewide score is shown as 73%, one can feel confident that the "true" statewide score is between 71% and 75%. The purpose of this reminder is to caution the reader to refrain from over-emphasizing small differences between scores.

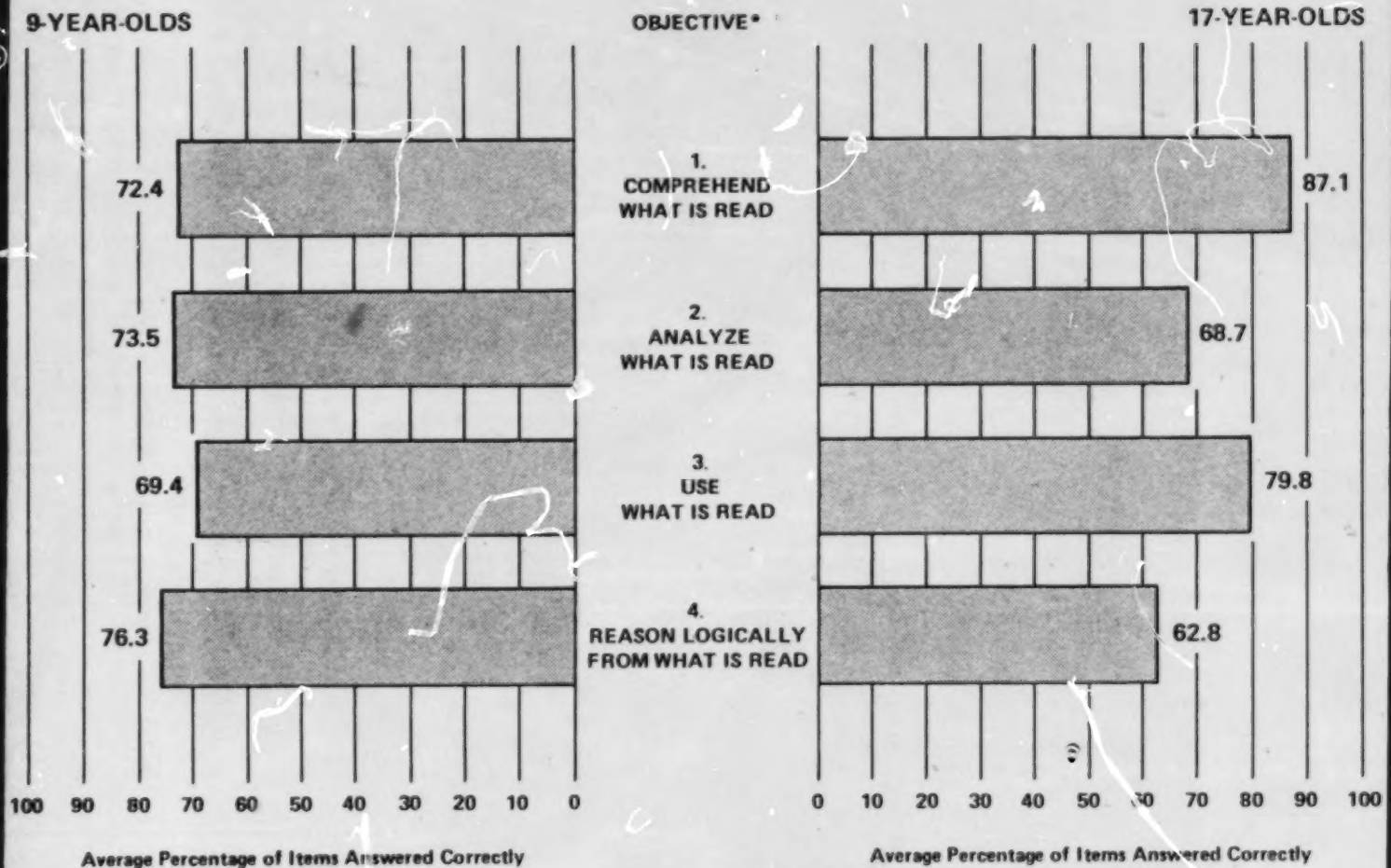
Summary of Results

ACHIEVEMENT ON OBJECTIVES. Nine-year-olds scored between 69.4% and 76.3% correct across the four objectives. Their lowest performance was on Objective 3, Use What is Read, while their highest performance was on Objective 4, Reason Logically from What Is Read. The scores of 17-year-olds were much more variable, ranging from 62.8% to 87.1%. In contrast to the 9-year-olds, 17-year-olds scored highest on Objective 1, Comprehend What Is Read, and lowest on Objective 4, Reason Logically from What Is Read.

The reader is reminded that, although the identical objectives were assessed at each age level, the group of matching test items *differed* for each age group. When comparing performance across age groups on a particular objective, the reader should bear in mind that test items at the 17-year-old level were more difficult than those at the 9-year-old level.

FIGURE 2

Achievement of Massachusetts Students by Objective



* Note that while the objectives assessed at the two age levels were the same, the # of test items referenced to a given objective differed at each age level.

The fact that the overall achievement scores were about the same at the two age levels (73% and 75% for 9- and 17-year-olds, respectively) is an indication that item difficulties were well-matched to the respective age levels.

YEAR-TO-YEAR COMPARISONS. On those test items which were administered in both assessment years (13 identical items for 9-year-olds and 24 identical items for 17-year-olds) performance varied such that students this year performed above, below, or the same as students in 1974-75 depending on the item. But, on the average, students in each age group performed at about the same level as their counterparts in the 1974-75 Massachusetts assessment.

Because testing took place earlier in the school year during the 1974-75 assessment (from October through January rather than during February and March), the sample composition for the two assessments was slightly different at the 9-year-old level and quite different among 17-year-olds. In the 1974-75 assessment, a larger proportion of the 9-year-old sample were fifth-graders than in the current year (9% of the sample in 1974-75 compared to 1% in 1977-78).

At the 17-year-old level, many more of the students were in the twelfth grade during the earlier assessment (83% of the sample in 1974-75 compared to only 30% in 1977-78). In other words, in the 1974-75 assessment the typical 17-year-old student was a twelfth-grader tested early in the school year, while in 1977-78 the typical 17-year-old was an eleventh-grader tested in the middle of the school year. The fact that students this year performed about the same as those tested in 1974-75 is therefore cast in a more favorable light.

READING OBJECTIVES

1. *Comprehend What Is Read:* Read phrases, clauses, sentences, paragraphs, and passages.
2. *Analyze What Is Read:* Be able to trace sequences; perceive the structure and organization of the work; see the techniques by which the author has created his effects.
3. *Use What Is Read:* Remember significant parts of what is read; follow written directions; obtain information efficiently from graphs and charts.
4. *Reason Logically from What Is Read:* Draw appropriate inferences from the material that is read and "read between the lines" where necessary; arrive at a general principle after examining a series of details; reason from a general principle to specific instances.

III. COMPARING MASSACHUSETTS WITH THE NATION AND THE NORTHEAST REGION

Introduction

To put into perspective the achievement of Massachusetts students, results presented here compare Massachusetts students with students in the Nation and the Northeast Region tested by the National Assessment of Educational Progress (NAEP). The results described here are for only those items administered at the same age levels in both the Massachusetts and NAEP assessments.

Figures 3 and 4 show the average percentage of these test items answered correctly for each objective by students in Massachusetts, the Nation, and the Northeast at the two respective age levels. The Northeast Region is defined by NAEP as including Maine, New Hampshire, Vermont, Massachusetts, Connecticut, Rhode Island, New York, New Jersey, Washington, D.C., Pennsylvania, and Maryland.

The reader should bear in mind that NAEP uses paced audiotapes to accompany the tests, while Massachusetts did not. Further, NAEP tests 9-year-olds in January and February and 17-year-olds in March and April, while Massachusetts tested both age groups in February and March. There is no conclusive evidence as to the impact of these differences on achievement.

Summary of Results

There are a total of 42 items for 9-year-olds and 40 items for 17-year-olds for which comparable national and Northeast scores are available from NAEP.

COMPARISONS WITH THE NATION. Overall, Massachusetts 9-year-olds out-scored their counterparts nationwide by four to six percentage points on two of the four objectives, Analyzing What Is Read and Reasoning Logically from What Is Read. They scored at about the same level on the remaining two objectives. The scores of Massachusetts 17-year-olds were about 3% higher than the scores of students nationwide on Comprehending What Is Read and Using What Is Read; they scored at about the same level as their national counterparts on the other two objectives.

FIGURE 3

Comparing Massachusetts, the Nation, and
the Northeast by Objective—9-Year-Olds

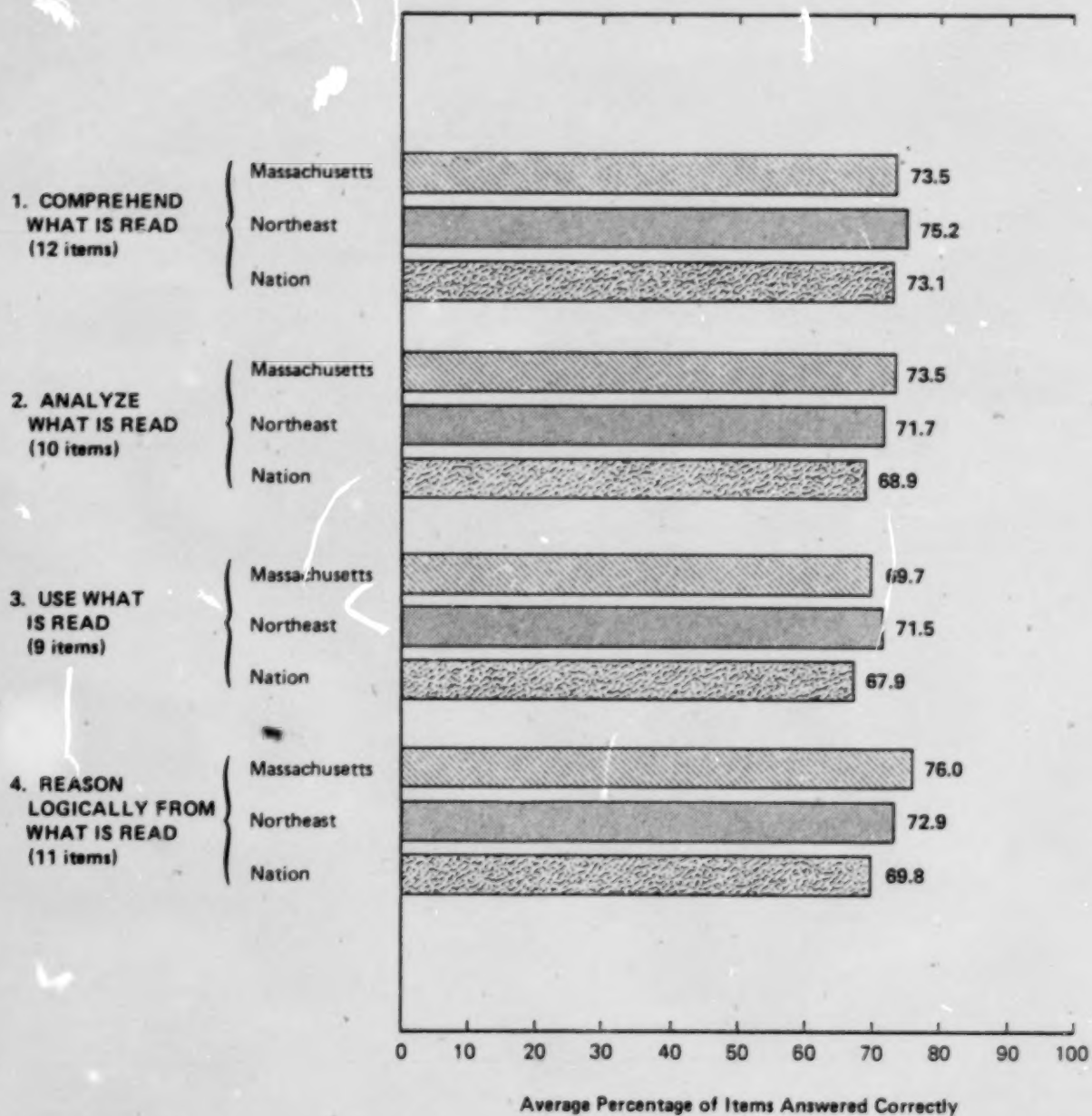
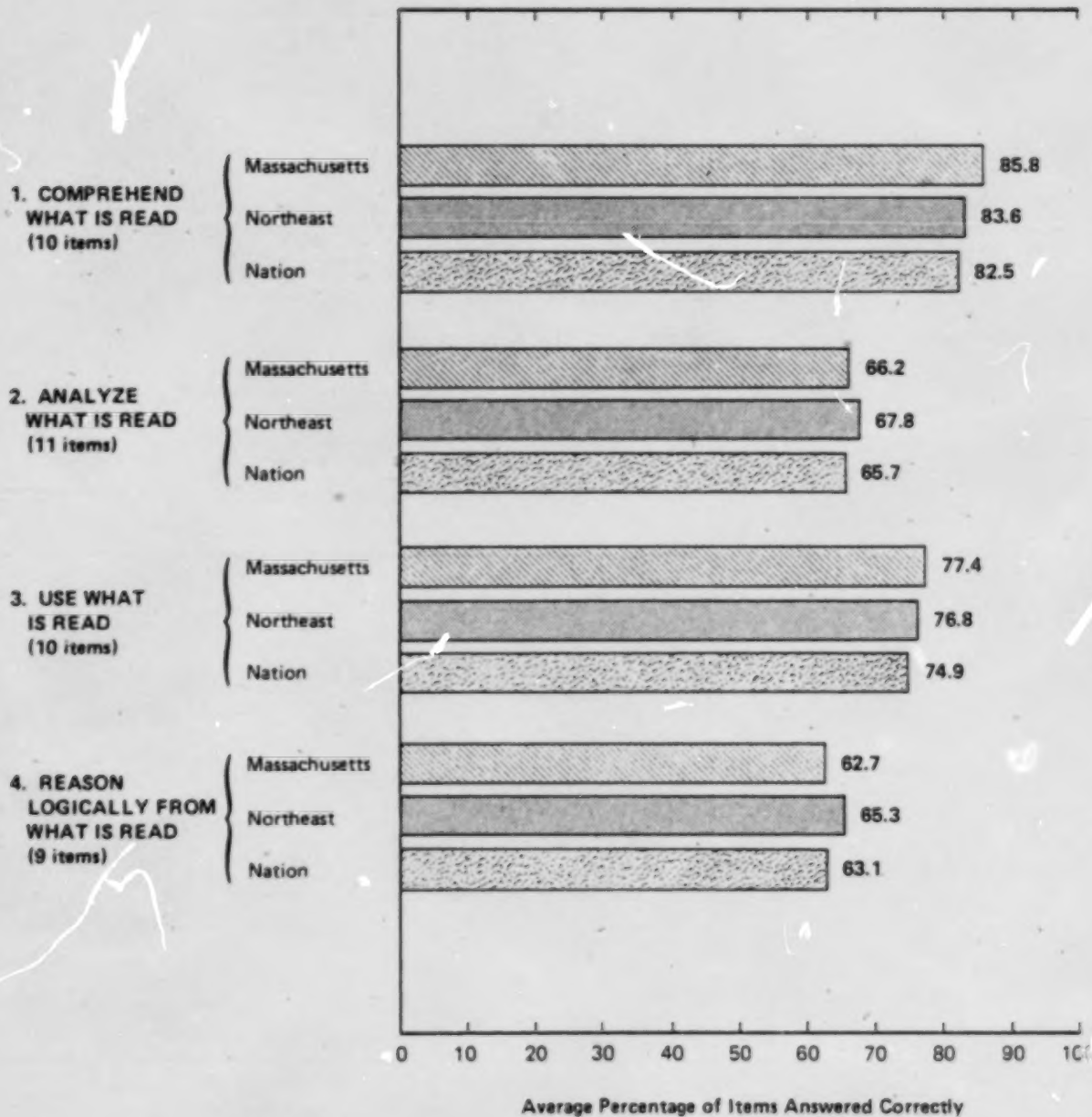


FIGURE 4

Comparing Massachusetts, the Nation, and the Northeast
by Objective—17-Year-Olds



COMPARISONS WITH THE NORTHEAST. Because the Northeast traditionally out-scores the Nation, the scores of students in the Northeast are a better standard against which to judge the performance of Massachusetts students. In general, students at both age levels scored comparably with their counterparts in the Northeast Region. The scores of Massachusetts 9-year-olds were within 2% of Northeast scores on three of the four objectives; only on Reasoning Logically from What Is Read did they score 3% higher than their Northeast counterparts. The same was true at the 17-year-old level, except that on the latter objective, Massachusetts students scored almost 3% below 17-year-olds in the Northeast.

OVERVIEW. In general, the relative performance of Massachusetts 9-year-olds was slightly stronger than that of 17-year-olds. In addition, the achievement of both age levels was comparable to that in the Nation and the Northeast.

READING OBJECTIVES

1. *Comprehend What Is Read:* Read phrases, clauses, sentences, paragraphs, and passages.
2. *Analyze What Is Read:* Be able to trace sequences; perceive the structure and organization of the work; see the techniques by which the author has created his effects.
3. *Use What Is Read:* Remember significant parts of what is read; follow written directions; obtain information efficiently from graphs and charts.
4. *Reason Logically from What Is Read:* Draw appropriate inferences from the material that is read and "read between the lines" where necessary; arrive at a general principle after examining a series of details; reason from a general principle to specific instances.

IV. COMPARING TOTAL TEST ACHIEVEMENT BY MASSACHUSETTS REPORTING GROUPS

Understanding the Results

The purpose of this section is to describe and compare the achievement of selected groups of students within Massachusetts. Most of the selected groups are defined on the basis of responses to the student or principal questionnaires. Ten questions from the student questionnaire, selected on the basis of their policy relevance, are used to define reporting groups (although some of these questions were not administered to both age groups) as well as two questions from the principal questionnaire. Results by region and kind of community are also reported.

In each case, the average for the reporting group is compared to that for *all* students at that age level within Massachusetts (the state average). The purpose of these analyses was to identify those factors that bear a relationship to student achievement. Achievement is defined as performance on the total test; that is, the average percentage of *all* items on the test answered correctly by students in each group.

The reader should note that the tables in this chapter indicate those differences in scores that are statistically significant. However, the reader should note that statistical significance is not to be equated with educational meaningfulness. Small differences between groups may be *statistically significant* in one case and not in another due to a variety of factors, but, even where statistically significant, differences may be too small to be educationally meaningful. What is educationally meaningful depends on the reader's judgment about the practical implications of given differences in scores.

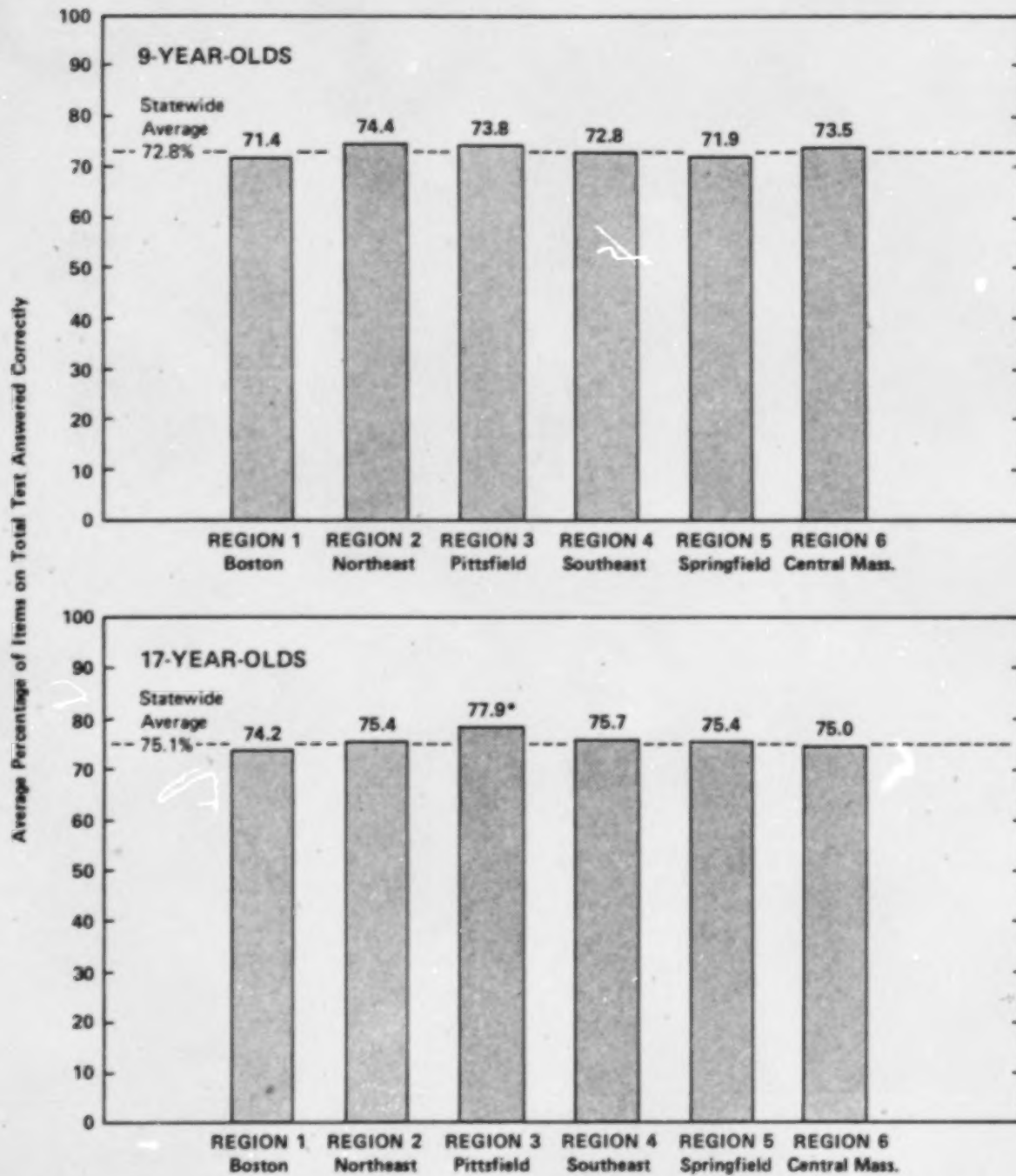
Further, the reader is cautioned to refrain from drawing cause-effect inferences from these data. The differences observed suggest only a *relationship* between a given factor and achievement, *not a causative influence* of the factor on achievement.

Results by Region and Kind of Community

AVERAGE ACHIEVEMENT. Figures 5 and 6 display *average performance* by region and kind of community, respectively. At both age levels, Big-City

FIGURE 5

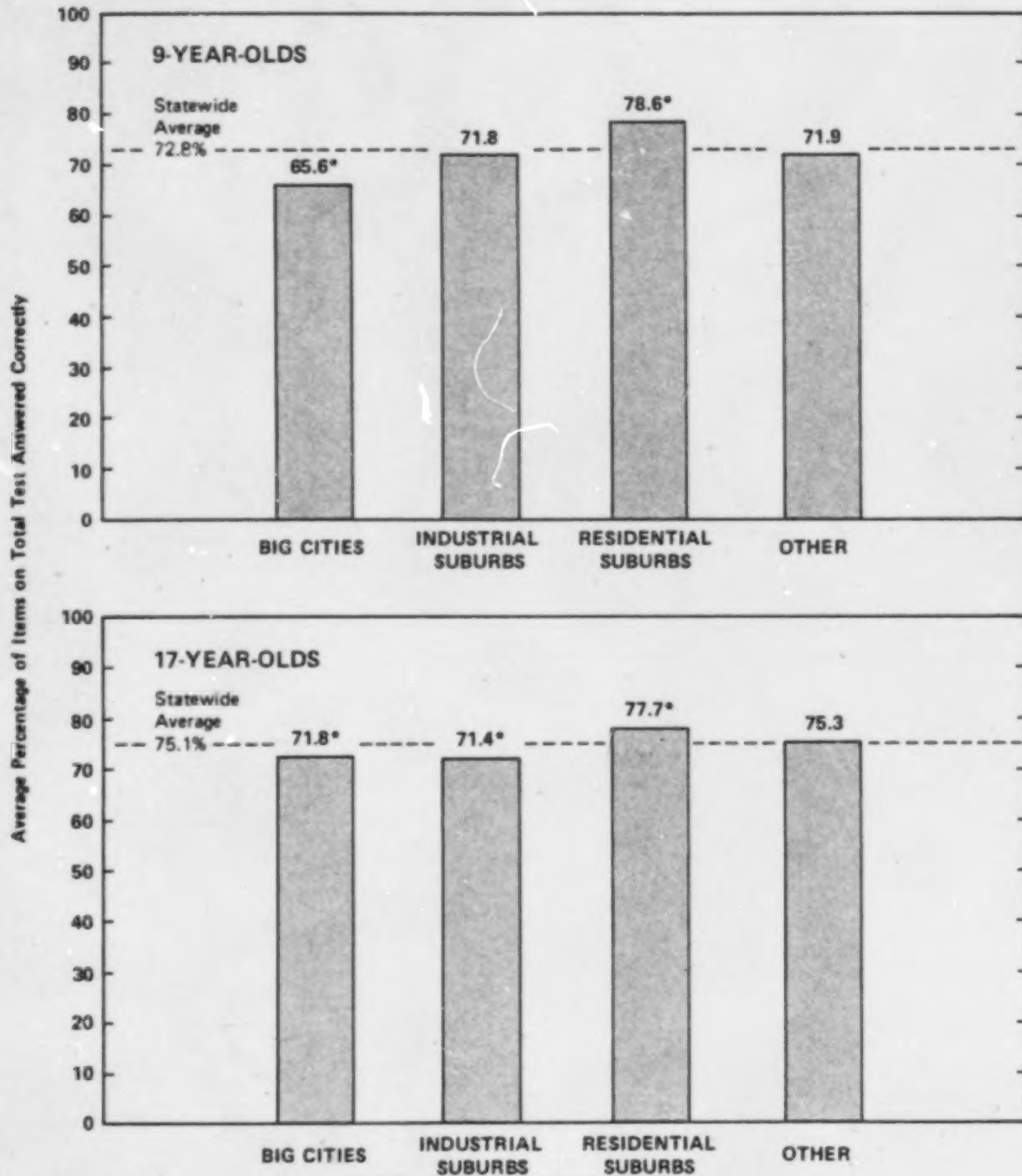
Achievement on Total Test by Region



*represents statistically significant difference between Region and Statewide Average

FIGURE 6

Achievement on Total Test by Kind of Community



*represents statistically significant difference between Kind of Community and Statewide Average

students performed from 3% to 7% below the statewide average, while students in Residential Suburbs exceeded the statewide average by 3% to 6%. Students in Industrial Suburbs scored at about the same level as students statewide at the 9-year-old level, but 4% below the state at the 17-year-old level. The scores of students in Other Communities did not differ significantly from statewide scores at either age level.

At both age levels, differences between respective regions and the state average were generally very small. The only exception was found in Region 3, the Pittsfield Region, where 17-year-olds outperformed students statewide by a small but statistically significant margin. The reader is reminded that each of the regions comprises a fairly large area, as shown on the map on page 5. For example, Region 1 consists of many communities outside of Greater Boston.

DISTRIBUTION OF RESPONSES. Tables 7 and 8 display the distribution of percent correct across the state and in each region and kind of community. Across the state and in each region, slightly under half of the 9-year-olds answered correctly over 80% of all items on the test, while very few answered correctly fewer than 41% of the items. About a third of the students answered correctly between 61% and 80% of the items. Differences in the distribution of responses in the four kinds of communities are revealed most clearly by examining the percentage of students receiving achievement scores in the highest category. Fifty-seven percent of 9-year-olds in Residential Suburbs answered correctly over 80% of all test items, compared to only 30% of Big-City students who scored in this category.

Among 17-year-olds, the large majority of students answered correctly more than 60% of all test items. Across the six regions, between 41% and 49% of 17-year-olds scored between 61% and 80%, while 38% to 45% scored over 80%. Students in Residential Suburbs were more likely to receive scores in the highest category than students in either Big Cities or Industrial Suburbs.

Results for Additional Reporting Variables

The average performance of each of the remaining reporting groups defined by questionnaire responses are presented in Table 9.

SEX OF STUDENT. At the 9-year-old level, females performed slightly above the statewide average, while males performed slightly below, with a difference between the two groups of only 3%. At the 17-year-old level, the achievement scores for each sex did not differ significantly from the statewide average.

TABLE 7

Distribution of Total Test Score by Reporting Group
for Massachusetts 9-Year-Olds

Reporting Group	Percentage of Students with Achievement Scores in the Following Ranges:				
	0-20%	21-40%	41-60%	61-80%	81-100%
ALL STUDENTS	1	6	16	33	44
REGION:					
1. Boston	2	8	16	31	44
2. Northeast	1	6	14	33	47
3. Pittsfield	2	5	14	34	45
4. Southeast	2	5	17	35	42
5. Springfield	1	8	18	31	43
6. Central Mass.	1	6	15	38	42
KIND OF COMMUNITY:					
1. Big Cities	3	13	21	34	30
2. Industrial Suburbs	1	5	16	36	42
3. Residential Suburbs	0	3	10	29	57
4. Other Communities	1	6	18	37	39

TABLE 8

Distribution of Total Test Score by Reporting Group
for Massachusetts 17-Year-Olds

Reporting Group	Percentage of Students with Achievement Scores in the Following Ranges:				
	0-20%	21-40%	41-60%	61-80%	81-100%
ALL STUDENTS	0	2	13	45	40
REGION:					
1. Boston	0	3	16	41	40
2. Northeast	0	1	12	48	38
3. Pittsfield	1	2	6	48	44
4. Southeast	0	1	13	40	45
5. Springfield	1	1	12	49	38
6. Central Mass.	0	2	12	48	38
KIND OF COMMUNITY:					
1. Big Cities	1	1	22	46	31
2. Industrial Suburbs	0	5	16	48	31
3. Residential Suburbs	0	1	10	41	48
4. Other Communities	0	2	11	50	39

TABLE 9
Achievement by Student and Principal
Questionnaire Reporting Groups

Reporting Group	Average Percentage of Items on Total Test Answered Correctly	
	9-Year-Olds	17-Year-Olds
ALL STUDENTS STATEWIDE	73	75
SEX:		
Male	71*	74
Female	74*	76
HOW DO YOU FEEL ABOUT SCHOOL?		
I don't like it at all	65*	70*
Mostly, I don't like it	73	71*
School is OK	73	73*
Mostly, I like it	78*	78*
I like it a lot	68*	78
HOW DO YOU LIKE YOUR READING CLASSES?**		
Don't like them very much	69*	
They're OK	74*	
Like them a lot	72	
HOW MUCH DO YOU LIKE READING?***		
Don't like it very much		68*
It's OK		73*
Like it a lot		82*

* Represents statistically significant difference in score between students who selected this response and statewide average.

** Question asked of only one age group.

TABLE 9 (continued)

Reporting Group	Average Percentage of Items on Total Test Answered Correctly	
	9-Year-Olds	17-Year-Olds
HOW OFTEN DO YOU READ OUTSIDE SCHOOL FOR PLEASURE?		
Hardly ever	66*	70*
Once or twice a month	75	74*
Once or twice a week	74*	76*
Almost every day	76*	79*
HOW OFTEN DO YOU SEE ONE OR BOTH OF YOUR PARENTS READING?		
Hardly ever	58*	69*
Once or twice a month	64*	71*
Once or twice a week	70*	72*
Almost every day	74*	76*
DO YOU FEEL THAT YOUR SCHOOL DID A GOOD JOB IN TEACHING YOU TO READ? **		
Yes		76*
No		72*
HOW MUCH DO YOUR PARENTS WANT YOU TO GO TO SCHOOL OR COLLEGE AFTER HIGH SCHOOL? **		
Hardly at all		65*
Only a little		70*
Quite a bit		74
A lot		79*

* Represents statistically significant difference in score between students who selected this response and statewide average.

** Question asked of only one age group.

TABLE 9 (continued)

Reporting Group	Average Percentage of Items on Total Test Answered Correctly	
	9-Year-Olds	17-Year-Olds
WHAT ARE YOUR PLANS AFTER HIGH SCHOOL?**		
Full-time job or armed services		67*
Full-time job and night school		73*
Specialized training (nursing, technical, business schools, etc.)		71*
2-year or community college		74
4-year college		82*
Haven't decided		70*
IN WHICH TYPE OF PROGRAM OR CURRICULUM ARE YOU NOW ENROLLED?**		
General		71*
Vocational		68*
College-bound		81*
Business or commercial		69*
Don't know		62*
IS YOUR SCHOOL AN ESEA TITLE I SCHOOL?†		
Yes	71*	76
No	76*	76
FIRST QUARTER ATTENDANCE.†		
Low	70	74
High	75*	78*
SECOND QUARTER ATTENDANCE.†		
Low	70*	74
High	76*	77*

* Represents statistically significant difference in score between students who selected this response and statewide average.

** Question asked of only one age group.

† Principal Questionnaire item.

ATTITUDE TOWARD SCHOOL. There was a general trend at each age level for performance to improve as the student's reported attitude toward school became more positive. Those who "strongly dislike" school performed lower than the state average by 5% to 8%. About half of the students at each age level reported "liking" or "strongly liking" school, while about one-fifth reported that they "dislike" or "strongly dislike" school.

READING HABITS AND ATTITUDES

- *9-year-olds' attitude toward reading classes:* Nine-year-olds who indicated that they "don't like their reading classes very much" scored 4% below the statewide average, while those who reported that their reading classes were "OK" outperformed the state by a small but statistically significant margin (1%). Only 7% of the 9-year-olds indicated that they did not like their reading classes, while 39% reported that they liked them "a lot."
- *17-year-olds' attitude toward reading:* Achievement scores increased as the attitudes of 17-year-old students toward reading became more positive. Those students who reported that they "did not like reading very much" or who described reading as "OK" performed from 2% to 7% below the state, while those who reported that they liked reading "a lot" outperformed the state by 7%. Twice as many students reported that they like reading "a lot" (32%) as those who indicated that they "did not like it very much" (16%).
- *Reading outside of school:* There was a general trend for achievement scores to be higher as the frequency of reported recreational reading increased. Students at both age levels who reported that they "hardly ever" read outside of school for pleasure scored up to 7% below the statewide average, while those who replied that they read for pleasure "almost every day" outperformed the state by up to 4%. About 23% of all students reported that they "hardly ever" read outside of school, while 68% of the 9-year-olds and 58% of the 17-year-olds indicated that they read for pleasure "once or twice a week" or "almost every day."
- *Frequency of reading by parents:* There was also a general trend for achievement scores to be higher among students who reported that their parents frequently read books, magazines, or newspapers. Students who reported that they "hardly ever" see their parents reading scored well below the statewide average (15% and 6% below for 9- and 17-year-olds, respectively), while students of both age groups who reported seeing

their parents reading "almost every day" outscored the state by 1%. Only a small percentage (about 7%) of all students indicated that they see their parents reading "hardly ever" or "once or twice a month." About 82% of the students reported seeing their parents reading "almost every day."

- *Evaluation of reading instruction.* Among 17-year-olds, those who felt that their school "did a good job in teaching them to read" scored 4% higher than those who did not feel this way. Seventy-five percent of the 17-year-olds responded positively to this question.

EDUCATIONAL PLANS

- *Parental encouragement to continue schooling:* Among 17-year-olds, there was a strong tendency for performance to improve with the increased emphasis placed by parents on postsecondary education. Students whose parents wanted them to continue schooling after high school "only a little" or "hardly at all" scored below the statewide average by 5-10%, while students whose parents encouraged them "a lot" scored higher than the state by 4%. Nineteen percent of the 17-year-olds reported that their parents wanted them to continue their education after high school "only a little" or "hardly at all," compared to 81% whose parents encourage them "quite a bit" or "a lot."
- *Post-high-school plans:* Among 17-year-olds, students who reported that they plan to attend a four-year college scored 7% higher than the statewide average, while those who plan on a full-time job, combining school with a full-time job, or getting specialized training scored 2-8% lower than students statewide. Forty percent of the 17-year-olds plan to attend four-year college, while 6-11% responded in each of the remaining ways. Further, 21% of 17-year-olds have not yet decided on post-high-school plans.
- *Present high school program:* At the 17-year-old level, students who indicated that they were enrolled in a college-bound program scored 6% higher than the statewide average, while students who said they were enrolled in a general, vocational, or business program scored 4-7% lower than the statewide average. Just over half of the students (54%) reported that they were in college-bound programs, and from 10% to 16% of the students indicated that they were enrolled in each of the other types of programs.

PRINCIPAL QUESTIONNAIRE VARIABLES

- *School participation in ESEA Title I program:* At the 9-year-old level only, students in schools which receive ESEA Title I funds performed slightly below while those in non-Title I schools scored slightly above the state average. At the 17-year-old level, both of these groups scored at about the statewide average. A total of 59% of elementary school principals and 41% of high school principals replied that their schools participated in the ESEA Title I program.
- *School attendance:* At both age levels, students in schools whose principals reported high attendance rates in the first and second quarters tended to outperform students statewide by up to 3%. Ninety-two percent of elementary school principals reported that average first-quarter attendance in their schools was over 90%, while 82% reported this high a rate for the second quarter. At the high school level, 76% of the principals reported first-quarter attendance above 90%, while only 43% reported as such for the second quarter.

V. ADDITIONAL HIGHLIGHTS OF THE PRINCIPAL AND STUDENT QUESTIONNAIRES

Introduction

In addition to an analysis of those questionnaire variables which were shown in Section IV to bear a relationship to achievement, an examination of the responses to additional questionnaire responses may, in itself, provide a policy-relevant characterization of students, principals, and schools throughout Massachusetts. Highlights of these questionnaire responses are presented below along with a profile of the outstanding differences between students in Big Cities and Residential Suburbs. Other questionnaire items that were judged by the Committee to lack policy relevance are detailed in the Technical Report.

Highlights of the Principal Questionnaire

OBJECTIVE-REFERENCED INSTRUCTION. Principals were asked to rank order the objectives assessed by the test in terms of importance or instructional emphasis in their schools and to indicate their satisfaction with student achievement on each one.

The results were similar at the two age levels. Ninety-three percent of the elementary school principals and 85% of the high school principals ranked Objective 1, Comprehend What Is Read, as receiving the most emphasis in their curriculum. The average rankings of the remaining three objectives were quite close at each age level, indicating that these three objectives receive varying degrees of emphasis in different schools. Since substantive definitions of the objectives were not provided on the questionnaire, it is possible that some questionnaire respondents were not sufficiently aware of the technical meanings to rank the latter three objectives in a valid way.

Overall, principals of students at both age levels expressed more satisfaction than dissatisfaction with student achievement on each objective. Ninety percent of the elementary school principals were either "satisfied" or "very satisfied" with student achievement in Comprehension. About 76% felt this way about achievement in both Analysis and Usage, while 64% expressed some degree of satisfaction with student achievement in Logical Reasoning.

High school principals expressed slightly lower overall satisfaction with student achievement, although the same relative ordering of the objectives is maintained. Seventy-nine percent of high school principals indicated that they were either "satisfied" or "very satisfied" with achievement in Comprehension. About 59% were satisfied to some degree about both Analysis and Usage, and slightly over half felt the same way about Logical Reasoning.

WAYS TO IMPROVE READING ACHIEVEMENT. Principals were asked to cite two major ways in which reading achievement in their school could be improved. At the elementary school level, slightly over half of the principals wanted "smaller classes," while over a third of these principals desired either "more inservice training for teachers" or "more time for teaching reading." About one-fourth indicated a need for either "additional specialized reading teachers" or "more aides or tutors for reading classes." Fewer than 10% cited a need for "better instructional materials."

At the high school level, where the instruction in reading is more remedial in nature, a different set of alternative responses to this question was provided to principals. A total of 70% of high school principals advocated "more inservice training for teachers in upgrading reading skills." Roughly one-third indicated a need for "additional specialized reading teachers" (36%) or "more tutorial or remedial classes" (31%) or "curriculum materials more relevant to the reading level and interests of students" (27%). About one-fifth of the high school principals chose to specify their own alternatives. Most of these responses reflected a desire to extend the formal reading curriculum beyond the elementary school level.

MINIMUM ACHIEVEMENT STANDARDS. At both age levels, most of the principals responded "Yes" to the question: "Do you believe that all students must meet some specified minimum standard of achievement in reading, writing, and mathematics as one requirement for the awarding of the high school diploma?" (82% and 72% for principals of 9- and 17-year-olds, respectively).

The overwhelming majority of principals felt that, if minimal competency standards were to be used as a basis for high school graduation, the local educational agencies should have *some* responsibility for setting those standards. About one-third of elementary school principals and one-fourth of high school principals felt that the responsibility should rest solely with local educational agencies, while another 50-53% replied that the local agencies and the State Board of Education should share that responsibility jointly. Only about 6% of the principals at both age levels replied that the State Department of Education should have sole responsibility for setting standards, and only 1% of the principals indicated that the state legislature should set minimal competency standards.

PARENTAL SUPPORT OF THE SCHOOL. Most of the principals (70-75%) rated parental support of their school as either "good" or "excellent." However, more elementary school principals (43%) than high school principals (21%) described parental support as "excellent." Only 12% of the elementary school principals and 6% of the high school principals reported "fair" or "poor" parental support.

STUDENT ATTITUDE TOWARD SCHOOL. Most principals rated the attitude of the majority of their students as "good" or "excellent." At the elementary school level, 55% of the principals reported that the attitude of their students was generally "good," while 23% replied that it was "excellent." At the high school level, 58% cited "good" student attitude, and 8% described student attitude as "excellent." Only 3% to 6% indicated that the attitude of the majority of their students was "fair," and no principal described student attitude as generally "poor."

Highlights of the Student Questionnaire

PARENTAL ENCOURAGEMENT OF RECREATIONAL READING. About twice as many 17-year-olds (31%) as 9-year-olds (16%) indicated that their parents "do not care whether or not" they read in their spare time. About 34% of the 9-year-olds indicated that their parents "encourage them to read as much as possible," as compared to 22% of the 17-year-olds who answered in this way.

PARENTAL INVOLVEMENT IN SCHOOLWORK. Twice as many 9-year-olds (42%) as 17-year-olds (21%) indicated that their parents were involved in their schoolwork "a lot." Thirty-nine percent of the 17-year-olds and 25% of the 9-year-olds replied that their parents were involved in their schoolwork "only a little" or "hardly at all."

TIME SPENT TEACHING READING. Almost all (94%) of the 9-year-olds replied that they felt that their teachers spend enough time with them so that they could learn to read well.

FREQUENCY OF HOMEWORK. Thirty-five percent of the 9-year-olds reported that they receive "practice work" as homework (e.g., practicing spelling words) "almost every day," while 48% of 17-year-olds reported that they receive "drill work" as homework "almost every day." Additionally, 30% of 9-year-olds and 41% of 17-year-olds reported that they are given reading assignments as homework "almost every day." Similarly large proportions of students reported receiving these types of homework "once or twice a week."

Profile of Students and Schools in Big Cities

Results reported earlier indicated that Big-City students tended to score below the statewide average, while students in Residential Suburbs tended to score above the statewide average. An attempt was made to identify characteristics of Big-City schools that may contribute to differential achievement in comparison to students in Residential Suburbs. The resultant "profile," based on responses to the principal and student questionnaires, is presented below.

In comparison to Residential Suburbs, *Big Cities* are places in which:

- the proportion of 9-year-olds in the third grade is larger, while the proportion in the fourth grade is smaller.
- a higher proportion of 9-year-olds "strongly like" school.
- a higher proportion of 9-year-olds like their reading classes "a lot."
- 9-year-olds are assigned reading homework more often.
- a smaller proportion of parents of school-age children work in high-status occupations.
- a smaller proportion of 17-year-olds plan on attending a four-year college.
- principals are more likely to encounter "fair" or "poor" parental support of the school and student attitudes toward school.
- the average attendance rate in each quarter tends to be lower.
- fewer elementary schools are likely to have a full-time reading specialist.

VI. INTERPRETATIONS AND RECOMMENDATIONS

Introduction

This section of the report contains an analysis and interpretation of the findings of the assessment and a set of recommendations based on those findings. The work of interpreting the results was the responsibility of the Reading Technical Committee. The recommendations developed by the Committee are appropriate to several audiences, including, but not limited to, teachers, local administrators, curriculum planners, and state-level decision-makers.

The Context: The Committee's View of the Findings

The findings were viewed by the Committee as constituting baseline information about the basic Reading skills and knowledge of Massachusetts students on the four high-priority learning objectives. The Committee imbedded their interpretations and recommendations in the context of their professional *expectations* for students statewide in consideration of the particular group of items for each objective. In addition, they utilized information derived from the Benchmark Survey described earlier (see page 7), where consensus (at least two-thirds agreement of survey participants) was achieved.

The reader should bear in mind that different tests were administered at each age level. However, some individual test items were administered to both age groups. This duplication permitted a comparison of the achievement of each age group on each of these items. Given these comparisons, it was hoped that achievement would increase as the age level increased. Where substantial increases did not occur, this information is useful for instructional planning because it serves as one indication that a particular skill is not uniformly reinforced or developed at the high school level.

The reader should also note that, in evaluating student performance, the Committee's focus was always on strengths and weaknesses of a given age group across the objectives tested at that level. Within this context, the Committee made interpretive comments on performance which

fell short of expectations and which met or exceeded expectations. While most recommendations are based on perceptions of weaknesses in students' skill, the Committee emphasized that the observed strengths should not be overlooked. In particular, areas which showed high performance by students should continue to receive the same quality of instructional and curricular effort in order to maintain the strengths exhibited by students in these areas.

References to specific test items are made in the analyses that follow. Each of these items is described in Appendix B (see pages 53-61) along with the percentage of students answering correctly.

Recommendations: 9-Year-Old Level

OBJECTIVE 1: COMPREHENDING WHAT IS READ. The performance of Massachusetts 9-year-olds was about average (72% correct) on this objective, but they nevertheless performed comparably with their national and Northeast counterparts. More than 70% of the students answered correctly on nine of the 13 items matched to this objective. However, it was the consensus of the Benchmark Survey that five of the 13 items required additional instructional emphasis. Therefore, the Committee singled out a number of items for particular attention.

First, a relatively low percentage of students (32%) correctly answered an item (#40) which required an understanding of figurative language, and a similarly low percentage (43%) answered correctly an item (#12) which required reading in a mathematical context. While performance on these two items was about the same as that in the Nation and the Northeast, the results indicate a difficulty with these concepts at this age level. Similarly, only 41% of Massachusetts students answered correctly an item (#46) which required an understanding of "referent pronouns," as compared with 57% in the Nation and the Northeast.

On one additional item (#49), Massachusetts performance was respectable (72% correct), but significantly poorer than the Nation and the Northeast (83-88% correct). This item assessed students' ability to interpret a nonsense word in context.

The Committee was unconcerned that only 58% of the students could answer correctly the item (#27) which required the students to interpret the statement, "I certainly won't miss that movie." Because intonation could have affected the meaning of the statement, the Committee felt that this item should be excluded from any future assessment.

RECOMMENDATIONS

1. Increase the integration of reading instruction in other subject area classes, such as mathematics and social studies, to facilitate the transfer and generalization of students' reading skills.
2. Focus attention on the distinction between literal and interpretive comprehension and encourage the development of students' skills in both of these areas through presentation of a variety of reading exercises.
3. Increase the emphasis on conceptual understanding of language and pronoun relationships as well as figurative language.

OBJECTIVE 2: ANALYZING WHAT IS READ. Relative to the other objectives assessed at this level, Massachusetts 9-year-olds scored about average (73.5% correct) on this objective, but scored at or above national and Northeast norms on almost all the items for the objective. Again, despite these results, it was the consensus of the Benchmark Survey that six of the 10 items for this objective required additional emphasis.

Scores on the items for this objective generally ranged from 71% to 91% correct with the exception of two items: (1) an item (#2) on identifying the correct title for a story (41% correct), and (b) an item (#9) which required sequencing of events (59% correct). While these scores were above national and Northeast norms, the Committee was not satisfied with this performance.

In addition, the Committee noted that only 71% of Massachusetts 9-year-olds, as compared to 81% in the Nation and the Northeast, could answer correctly an item (#42) requiring them to identify the mood or feeling reflected in a story. Similarly, attention was given to the item (#41) which required students to identify a group of words that "tells how something sounds" (73% correct). The Committee felt that a larger proportion of students should be able to answer questions of these types.

RECOMMENDATION

1. Encourage teachers to provide classroom experiences that increase students' understanding of the connotative meanings of words and the ways in which words can be classified as indicators of mood or feeling. Specifically, provide practice in:
 - (a) selecting words that reflect how a student feels in specific situations;
 - (b) identifying words that emphasize mood or identifying events that change the mood of a passage;
 - (c) interpreting the meaning of a given word in different contexts;
 - (d) predicting outcomes, drawing conclusions, or providing endings to stories based on understanding of the mood of a passage;
 - (e) identifying mood in a variety of materials not limited to written passages or stories (e.g., listening to music, watching a dance presentation, or viewing abstract art);
 - (f) creative writing as a way of encouraging students to develop an understanding of the potency of words in describing mood and feelings.

OBJECTIVE 3: USING WHAT IS READ. The average achievement of Massachusetts 9-year-olds was lowest on this objective. On a third of the 13 items matched to the objective, between 78-89% of the students answered correctly, while on the remaining two-thirds of the items between 48-65% answered correctly. In accord with these results, it was the consensus of the Benchmark Survey that skills assessed by this objective require much additional emphasis; nine of the 13 items (69%) were judged to require more emphasis.

The Committee noted that Massachusetts 9-year-olds substantially outperformed their Northeast counterparts on items requiring map reading skills

(items #6, #7, and #8), but did not perform as well on: (a) an item (#14) requiring them to infer the general subject matter given only the title of a book, (b) an item (#35) requiring them to recognize an encyclopedia as an appropriate reference material for a given purpose, and (c) an item (#4) requiring them to extract information from a product label.

The eight items on which relatively low percentages of students answered correctly were those which required reference or application skills in locating information in a real-life context, what some would call "survival" or "life skills." These items assessed such things as understanding information presented on labels; understanding subject matter of books from their titles; using an index, telephone book, and encyclopedia; reading a TV guide; and determining direction on a map. On the latter item (#8), 64% of the 9-year-olds answered correctly, as opposed to the 86-89% who answered correctly the other map reading items (#6 and #7, respectively). The Committee noted with concern that, of the six items also assessed in 1974, five showed poorer performance in 1978 than in 1974.

RECOMMENDATIONS

1. Increase the emphasis on developing students' reference skills (related to the use of such things as indexes, telephone books, TV guides, and encyclopedias) both in reading and other subject area classes.
2. Increase students' exposure to a variety of types of reference materials and the manner in which information is located in each.

OBJECTIVE 4: REASONING LOGICALLY FROM WHAT IS READ. The performance of Massachusetts 9-year-olds was highest on this objective (76% correct), and on the 11 items for which comparisons are available, Massachusetts students performed about the same or better than their national and Northeast counterparts. It was also noted that Massachusetts females tended to outperform their male counterparts on these items and that, on the two items tested in both the 1974 and 1978 assessments, student performance was about the same in both years. The results of the Benchmark Survey indicated a relatively low level of concern for increased emphasis on instruction related to this objective; on only five of the 12 items (42%) was additional emphasis deemed necessary.

The Committee was generally pleased that on nine of the 12 items for the objective, between 71% and 93% of 9-year-olds could accurately draw inferences or logical conclusions from what was read. Only three items showed scores in the 56-66% range (#11, #34, and #48). The Committee singled out item #34 which required students to read a poem and identify the unstated speaker, and noted that 62% correct on this rather complex item was not a cause for concern.

In general, the Committee was impressed with performance on this objective and was somewhat surprised that students' performance here was better than on Objective 1 (Comprehension). They interpreted these results to perhaps reflect professional disagreement as to the specific subskills which should possibly be subsumed by each of these objectives. They concluded that certain items involving complex or inferential comprehension might have decreased the overall score on Objective 1 and would have more properly been matched to Objective 4.

RECOMMENDATION

1. Assist teachers in clarifying the distinction between literal and interpretive or inferential comprehension in order that they may help students to develop a range of reading skills.

Recommendations: 17-Year-Old Level

OBJECTIVE 1: COMPREHENDING WHAT IS READ. Consistent with the Committee's expectations, the performance of 17-year-olds was highest on this objective; on eight of the 11 items 83% or more of the students answered correctly, on one item 79% answered correctly, and only two items showed much lower scores. Massachusetts 17-year-olds tended to outperform their national and Northeast counterparts on most of the NAEP items and the same pattern of high and low scores across the items was observed in Massachusetts and NAEP data. There was, however, considerable variability in comparison scores on the items included in both the earlier and current assessment; depending on the item, students in 1978 performed higher, lower or the same as students in 1974.

According to responses on the principal questionnaire, Comprehension is receiving the highest priority in reading programs and the Committee noted that the achievement results are consistent with this perception. Also concurring with this perception, the Benchmark Survey participants agreed that only three of the 12 items require additional emphasis. While it was

the opinion of the Committee that some test questions tended to be easy for the age level assessed (e.g., items #1, 11, and 13 which included simple passages and literal answers), the Committee tended to be pleased with the achievement results. They did, however, note the results on two items in particular.

On one item (#23), some growth was observed from the 1974 to the 1978 assessment (65% to 68% correct), but the percentage scoring correct was low relative to the other items tested for this objective this year. The item required students to read a passage and determine that, according to the information given, the origins of the word "beat" are "obscure." Since their literal comprehension skill was demonstrated quite successfully on other items, the Committee questioned whether students were unclear as to the meaning of the word "obscure," or whether the direct statement in the passage led students to believe that it was a "trick" question.

On a second item singled out for attention (#42), about the same percentage of students (69%) answered correctly in both assessment years as well as in the Nation and Northeast, but the percentage was again low relative to other items tested on the objective this year. The question required students to read a rather lengthy and technically-worded article and to determine, from the information given, the event most likely to result in "immediate" danger from radioactive fallout. The Committee questioned whether students correctly understood the word "immediate" in trying to select the correct response and whether the essay (rather than narrative) style of the article may have been difficult for some students to comprehend.

RECOMMENDATIONS

1. Encourage teachers to focus on providing students with a variety of reading materials (e.g., essays, diaries, editorials) not restricted to narrative style in order to raise reading comprehension skills in secondary-level students.
2. Encourage teachers to insure that students are exposed to reading materials of varying length, particularly including longer articles which require more complex comprehension skills.
3. Encourage subject-area teachers to give attention to developing students' specialized vocabulary prior to assignment of technical reading material in order that comprehension can fully occur.

OBJECTIVE 2: ANALYZING WHAT IS READ. Among Massachusetts 17-year-olds, this objective ranked third out of four in overall achievement (69% correct), a full 18 percentage points below Comprehension. While Massachusetts students scored comparably with their national and Northeast counterparts, the Benchmark Survey agreed that nine of the 12 items (75%) required additional emphasis.

The range in percentage of students answering correctly across the items for the objective was extremely variable (generally 68% to 96%), but on two items the scores were even lower. One of these items (#20) asked students to identify the "main point" of a paragraph. Here, only 27% of Massachusetts 17-year-olds (the same percentage as in the Nation and the Northeast), but 36% in the 1974 assessment answered correctly. The Committee raised the concern that either this skill has tended to be ignored or the terminology generally used in the classroom has changed to "topic" or "main idea" and students may not have been as familiar with the terminology "main point." On the other item (#35), the low percentage answering correctly (25% as compared to 21% in 1974) was easier to interpret. The reading selection was long, abstract, contained advanced vocabulary as well as jargon, and was essay rather than narrative in style. Further, the distractors contained both ellipses and quotations, and the Committee felt that these factors very probably contributed to the low scores.

While scores were considerably higher on the remaining items, the Committee did note several additional findings. On one item (#39), requiring students to identify the paragraph written from a personal point of view, 68% of Massachusetts 17-year-olds (as opposed to 78% in the Nation and Northeast and 75% of their counterparts in the 1974 assessment) could answer correctly. Further, on item #32, 73% of Massachusetts 17-year-olds, as compared to 78% in the Northeast, could sequence items in the order presented in the passage. The Committee also noted considerable sex differences on several items; 3-11% more females answered correctly items #20, #32-#35, and #39.

RECOMMENDATIONS

1. Encourage teachers to provide students with more practice in analytic activities in connection with material that is read. Specifically:
 - (a) more practice in determining the "topic" as well as the "main idea" of an article or reading passage;

RECOMMENDATIONS (continued)

- (b) development of "sequencing" skills through the provision of more drill on rearranging facts or events in order of presentation, with stress given to different dimensions of organization (e.g., time, logic, size, cause-effect);
 - (c) more learning activities focused on developing students' ability to distinguish material written from a personal point of view and, by extension, to distinguish fact from opinion.
2. Encourage reading teachers to analyze the questions on the tests to clarify subskills assessed and determine possible rationale for variation in achievement across the set of items.
 3. Expand the number of "analysis" items on tests developed for future reading assessments to provide more detailed information about students' strengths and weaknesses in this area.

OBJECTIVE 3: USING WHAT IS READ. Of the four objectives, the achievement of 17-year-olds was second highest on this one, which involved primarily single recall and recognition in relation to reference skills and obtaining information efficiently. With few exceptions, students performed well on this objective; of the 13 items, on only two did fewer than 60% of the students answer correctly. However, the Committee noted that on five items it was the consensus of the Benchmark Survey that additional emphasis is required. While principals generally felt that the least amount of emphasis is currently given to developing skills related to this objective (over half ranked it last of the four objectives), the Committee was concerned that the phrase "use what is read" was not sufficiently specific to permit them to make a valid judgment in this regard. In fact, it was noted that Massachusetts 17-year-olds performed comparably with their Northeast counterparts on this objective.

The Committee was pleased to note that on one item (#36) requiring students to read a line graph, 85% of 17-year-olds this year as compared to 74% in the 1974 assessment answered correctly. By contrast, they were concerned about Massachusetts performance on an item requiring students

to recognize that a given passage would most likely be found in a "collection of essays" (#21); 55% of Massachusetts 17-year-olds compared to 67% in the Nation and 65% in the Northeast answered correctly. This item, also administered in the 1974 assessment, shows a similar Massachusetts score in that year.

One other item (#31) was considered worthy of note. The item included an excerpt from an automobile insurance policy and required students to identify the "maximum amount this policy would pay if you injured another person in an automobile accident." Only 15% of Massachusetts 17-year-olds could answer correctly, but scores were similarly low in the Nation (19%) as well as in the Northeast and in the Massachusetts 1974 assessment (18% each). The relative percentages notwithstanding, the Technical Committee was concerned that the percentage of students scoring correctly was very low on what was considered to be a very important "life skill." In order to answer correctly, a student had to identify the appropriate coverage category as "bodily injury liability" and multiply the given \$25 by "thousand each person." The Committee concluded that most students were unable to do either or both of these tasks, because on a much simpler question (#30) also referenced to this policy 91% could identify the "maximum amount for which the policy covered medical bills" by selecting the category "medical payments" and reading the \$1,000. It was the consensus of the Committee that the language and presentation of specialized consumer documents required sophisticated reading application skills which need attention at the secondary level.

RECOMMENDATION

1. Provide students with more exposure to and practice with "life skill" reading activities, including specialized areas such as insurance or medical policies and income tax forms as well as the more common reading sources such as road maps and graphs.

OBJECTIVE 4: REASONING FROM WHAT IS READ. Massachusetts 17-year-olds demonstrated their lowest performance on this objective (63% correct) and, on the average, performed slightly less well than their Northeast counterparts. On four of the nine items fewer than 60% of the Massachusetts 17-year-olds answered correctly. Accordingly, it was the consensus of the Benchmark Survey that skills related to this objective should receive highest priority; seven of the nine items were considered to require additional instructional emphasis.

The Committee paid particular attention to those items on which a relatively low proportion of students answered correctly. They noted, for example, that given a line graph, only 28% of Massachusetts 17-year-olds could draw a logical conclusion requiring an inference (item #37) and only 48% could recognize a statement that went beyond the information given in the graph (item #38). While performance on the first of these items was slightly lower than that in the Northeast and on the second item somewhat higher than in the Northeast, it was the opinion of the Committee that a larger proportion of students should be able to perform these tasks. Similar concern was expressed over the fact that only 37% of Massachusetts students (the same percentage as in 1974, but 6% less than in the Northeast region) could identify a statement considered false according to a given story (item #45) and that 59% (which compared favorably with Northeast results) could identify a paragraph in a passage that reflects a particular attitude (item #40).

Because this objective was referenced to fewer items than any of the other objectives assessed by the tests, the Committee felt it would be useful to include a wider range of items assessing "inferential reasoning" on future assessment tests. Massachusetts students appeared to be most weak in this area, as evidenced in particular by one item (#44) on which 69% of Massachusetts students (as compared to 80% of the students in the Northeast) could draw an appropriate inference from the material read. Although the low scores in this area were not entirely unexpected by the Committee, two recommendations were offered the classroom teachers.

RECOMMENDATIONS

1. Provide students with more practice in drawing appropriate inferences from passages or graphic material and in "reading between the lines" or "going beyond the information given" where necessary.
2. Expose students to graphs and tabular displays of many types to strengthen their skills in identifying facts or data presented, differentiating causes and effects represented, and recognizing trends or patterns reflected by the data.

Recommendations: Group Differences

In addition to considering achievement results on each objective, the Committee analyzed the results of the principal and student questionnaires

both in terms of the percentage of the respondents selecting each choice as well as the average achievement of each group defined by questionnaire responses. Following is a summary of the Committee's interpretations and recommendations based on questionnaire results.

DEMOGRAPHIC VARIABLES. The Committee noted with considerable concern results indicating that students from "Big Cities" tend, on the average, to perform less well than students from communities of other sizes; most notably, in comparison to students in "Residential Suburbs." While the complex interrelationship of factors which may be contributing to these differences was outside the purview of the Committee, interest was expressed in the development of a profile or characterization of "Big City" students and schools in order to increase understanding of the problems they confront. An initial attempt at such a characterization is provided in Chapter V, page 30 of this report. This profile is intended as a message to teachers and administrators regarding factors which warrant their attention. Many of these factors are also relevant to personnel in schools in "Industrial Suburbs," since high school students in these areas tended to perform at about the same level as their counterparts in "Big Cities."

Considering the achievement of students in each of the educational regions across the state, the Committee noted that there were generally small differences between the respective regional scores and the statewide average. The only exception was that 17-year-olds in the Pittsfield region performed, on the average, significantly higher than students statewide. In light of these results, the Committee considered the advantages which might accrue from the assignment of a full-time reading specialist to the Regional Office (as is currently the case in that region).

While students in schools whose principals reported higher average daily attendance tended to outperform those schools with lower attendance rates, it was suggested that these results be interpreted with caution. Attendance rates tend to vary according to the size of the community and the general socio-economic status of the schools. However, the Committee did make several suggestions for consideration by administrators in schools with low attendance rates, as noted in Recommendation #3 below.

RECOMMENDATIONS

1. Provide a characterization of students and schools in "Big Cities" in order to determine factors related to achievement differences in comparison to "Residential Suburbs."

RECOMMENDATIONS (continued)

2. Assign full-time reading specialists in each Regional Education Center in order to expand the resources available to reading teachers and programs.
3. Encourage communities with lower school attendance rates to implement such programs as:
 - (a) peer policing by community members to locate students who are chronic truants;
 - (b) penalty policies (e.g., denial of a passing grade for a course) imposed on students who are absent from class without an excuse for a specified number of days.

SCHOOL PROGRAM NEEDS. The Committee was very interested in the responses of principals who were asked to indicate ways in which reading programs in their schools could be improved. Among principals of elementary schools, slightly over half indicated a need for smaller classes, 38% indicated a need for inservice training of teachers, 34% indicated a need for more teaching time, and 26% indicated a need for more reading specialists and more teacher aides. Among high school principals, the need for inservice training of teachers was also the most popular response (70%); 36% indicated a need for more reading specialists, 31% need more remedial classes, and 27% indicated a need for Reading curricula more relevant to the reading level and interests of high school students. The Committee viewed these responses as having general policy implications for strengthening reading achievement across the state.

Consideration was also given to the fact that students enrolled in college-bound programs tended to outperform other students, while students enrolled in vocational programs, on the average, performed least well. The Committee was concerned about the nature of the reading programs and services provided to vocational students. The Committee was also unhappy to note that a full quarter of 17-year-olds reported a feeling that their schools did not do a good job of teaching them how to read.

The Committee concluded that the single most important factor relevant to strengthening reading achievement is the provision of adequate inservice training of teachers. While the majority of high school principals appear to be sensitive to this need, the Committee felt that the proportion of elementary school principals recognizing the importance of inservice training was unsatisfactorily low.

RECOMMENDATIONS

1. Investigate more fully the types of reading programs and services provided to vocational students in order to insure that their basic skills training is as strong as that provided to students in other programs.
2. Encourage administrators, especially at the elementary school level, to expand their commitment to inservice training of teachers with respect to reading instruction and pedagogy.

FREQUENCY OF HOMEWORK. The Committee noted with interest the responses of students regarding the frequency with which they are assigned various types of homework (see page 29). The Committee spent a considerable amount of time discussing the advantages and disadvantages of homework as well as alternative modes for assigning it. They concluded with the following recommendations for teachers.

RECOMMENDATIONS

1. Encourage elementary school teachers to assign homework that is primarily supportive of classroom activities, that does not unduly focus on drill work, but rather provides for follow-up practice on material already taught in the classroom.
2. Provide inservice training to secondary-level teachers on the types and varieties of ways of integrating homework assignments for several subject areas that emphasize common skills (e.g., English and Social Studies) in order to decrease duplication of effort.

STUDENT ATTITUDES TOWARD SCHOOL. The Committee was pleasantly surprised that about half of the students at each age level reported either "liking" or "strongly liking" school (and that the proportion indicating that they "strongly like" school was largest in the big cities). Further, 27-31% of each age group reported that "school is okay." It was the feeling of

the Committee that these results might dispel a common perception that student attitudes toward school are generally not very positive.

Since the assessment results also indicated that, particularly at the 17-year-old level, a relationship exists between student attitudes and achievement, the Committee felt that the importance of addressing affective factors in relation to both individual students in particular and schools in general should be stressed. The concern was raised, however, that principals tended to characterize the attitudes of their students toward school more positively than did the students themselves.

RECOMMENDATIONS

1. Encourage principals to take every opportunity to increase their awareness and sensitivity to student needs and attitudes.
2. Increase public relations or publicity to local communities (especially in urban areas) in order to provide the local public with a realistic perception of student attitudes toward school.
3. Given the relationship between student attitudes and achievement, focus increased attention on the results of the Statewide School Climate Study to provide more detailed information about this relationship.

READING HABITS AND ATTITUDES. Also in connection with affective and attitudinal variables, the Committee noted that 9-year-olds who do not like reading classes and 17-year-olds who do not like reading in general performed less well than students who feel neutral or positive toward reading. Moreover, the Committee was distressed to discover that only 41% of 9-year-olds and 34% of 17-year-olds reported that they read "almost daily" for pleasure outside of school. As might be expected, those students who read material of their choice "almost daily" tended to outperform their age-counterparts who do not read as frequently. The Committee concluded that school personnel should take some responsibility for insuring that students have the opportunity and are encouraged to read material of their choice in addition to assigned reading.

The importance of parents in serving as models for students with regard to reading habits was also stressed. Students who reported that they observed their parents reading daily outperformed those whose parents read less often, although the large majority of students in both age

groups reported seeing their parents read "daily." However, the Committee expressed concern about the approximately 20% of students in both age groups whose parents do not serve as strong role models in this regard, as well as about the 31% of 9-year-olds and 16% of 17-year-olds who indicated that their parents "don't care" whether or not students read in their spare time. Nevertheless, the Committee wished to extend a vote of confidence and reinforcement to those parents of the 75% of 9-year-olds and 61% of 17-year-olds who are perceived by students to be involved "quite a bit" or "a lot" in students' school work.

RECOMMENDATIONS

1. Attempt to provide, maintain, or increase individualization of instruction in reading such that all students have an opportunity to experience success and in turn, develop positive attitudes toward reading.
2. In the course of classroom instruction, encourage students to identify and read material of their choice, for example reading material related to a hobby or interest.
3. Encourage schools to implement a program of sustained silent reading whereby a short period of time is set aside in each school day during which *all* school personnel and students read material of their choice.
4. Encourage teachers and school personnel to work with parents in the attempt to raise their level of awareness of their importance in the total educational process; specifically, such opportunities afforded by PTA meetings and parent-teacher meetings should be taken to emphasize the importance of parental standard-setting with regard to reading habits.

General Recommendations

In summary, the Committee proposed the following general recommendations regarding reading programs, assessment, research, and staff training.

RECOMMENDATIONS

The Massachusetts Department of Education should:

1. assume a leadership role in the development of reading programs in Massachusetts; for example, by ensuring that there are certified reading specialists in each regional office who can provide inservice workshops and curriculum support to teachers in schools within the region.
2. strengthen the dissemination effort for the Statewide Assessment program and address the need to distribute the reports of results more widely to teachers, school department heads or coordinators, and higher education personnel. Specifically:
 - (a) enlist the support of such agencies as Right to Read, the Massachusetts Reading Association, and the International Reading Association Council to assist in the distribution of reports;
 - (b) solicit and utilize reader evaluations of the report;
3. conduct another Reading Assessment in the next few years, and, in doing so:
 - (a) test students who are 9-, 13-, and 17-year-olds to provide for more continuity of results;
 - (b) provide for a review of the 1978 tests to ensure incorporation of current recommendations regarding test content;
 - (c) continue to include an interpretive phase prior to results reporting to increase the use of the achievement results;
 - (d) continue to provide a Local Option in tandem with the assessment.
4. conduct research on the status of reading programs in the state, including types of curricula, the nature of professional training of staff, and the availability of reading specialists.

RECOMMENDATIONS (continued)

5. provide professional development workshops for teachers, specifically on the conceptual thinking in the field of reading, to increase teachers' knowledge of:
 - (a) the terminology used to define reading skills;
 - (b) ways to sequence reading instruction in relation to the development of thinking processes in children.

APPENDIX A

Identification of Region and Kind of Community
for Massachusetts School Districts

TABLE 10

Identification of Region* and Kind of Community**
for Massachusetts School Districts

School System	Region	KOC	School System	Region	KOC	School System	Region	KOC	School System	Region	KOC
Local Public Schools											
Abington	4	3	Bourne Union 10	4	4	Deerfield Union 38	3	4	Greenfield	3	4
Acton	2	3	Boxborough Union 42	2	4	Dennis Union 11	4	4	Groton Union 46	2	3
Acushnet	4	4	Boxford Union 58	2	3	Dighton Union 37	4	4	Groveland Union 53	2	4
Agawam	5	4	Boylston Union 60	6	3	Douglas	6	4	Hadley	5	4
Amesbury	2	4	Braintree	1	3	Dover Union 50	6	3	Halifax Union 31	4	4
Amherst Union 26	5	3	Brewster Union 54	4	4	Dracut	2	4	Hamilton Union 57	2	3
Andover	2	3	Bridgewater	4	4	Dunstable Union 46	2	4	Hampden	5	4
Arlington	1	3	Brimfield Union 61	6	4	Duxbury	4	3	Hancock Union 69	3	4
Ashburnham Union 56	6	4	Brockton	4	1	East Bridgewater	4	4	Hanover	4	3
Ashfield Union 65	3	4	Brookfield Union 61	6	4	East Brookfield Union 7	6	4	Hanson	4	4
Ashland	6	3	Brookline	1	3	Eastham Union 54	4	4	Hardwick Union 63	6	4
Athol	6	4	Burlington	2	3	Easthampton	5	2	Harvard	6	4
Attleboro	4	4	Cambridge	1	2	East Longmeadow	5	3	Harwich	4	4
Auburn	6	2	Canton	1	3	Easton	4	3	Hatfield	5	4
Avon	1	3	Carlisle	2	3	Edgartown Union 19	4	4	Haverhill	2	1
Ayer	2	4	Carver Union 62	4	4	Erving Union 28	6	4	Hingham	1	3
Barnstable	4	4	Chatham	4	4	Essex Union 48	2	4	Holbrook	1	3
Barre Union 63	6	4	Chelmsford	2	3	Everett	1	2	Holden Union 64	6	3
Bedford	2	3	Chelsea	1	2	Fairhaven	4	4	Holland Union 61	6	4
Belchertown	5	4	Chesterfield Union 66	3	4	Fall River	4	1	Holliston	6	3
Bellingham	6	4	Chicopee	5	1	Falmouth	4	4	Holyoke	5	1
Belmont	1	3	Chilmark Union 19	4	4	Fitchburg	6	1	Hopedale	6	4
Berkley Union 37	4	4	Clarksburg Union 43	3	4	Florida Union 43	3	4	Hopkinton	6	3
Berlin Union 60	6	4	Clinton	6	4	Foxborough	4	3	Hubbardston Union 63	6	4
Bernardston Union 18	3	4	Cohasset	1	3	Frammingham	6	3	Hudson	6	3
Beverly	2	3	Concord	1	3	Franklin	6	4	Hull	4	3
Billerica	2	4	Conway Union 38	3	4	Freetown Union 34	4	4	Ipswich	2	4
Blackstone Union 44	6	4	Danvers	2	3	Gardner	6	4	Kingston Union 31	4	4
Bolton Union 47	6	4	Dartmouth	4	4	Georgetown	2	4	Lakeville Union 34	4	4
Boston	1	1	Dedham	1	3	Gill Union 18	3	4	Lancaster	6	4
						Gloucester	2	4	Lanesborough Union 69	3	4
						Goshen Union 66	3	4	Lawrence	2	1
						Gosnold Union 37	4	4	Lee Union 29	3	2
						Grafton	6	3	Leicester	6	4
						Granby	5	4	Lenox	3	4
						Granville Union 39	3	4	Leominster	6	1

* Region Definitions: 1 = Boston Region; 2 = Northeast Region; 3 = Pittsfield Region; 4 = Southeast Region; 5 = Springfield Region; 6 = Central Mass. Region

** KOC Definitions: 1 = Big city; 2 = Industrial suburb; 3 = Residential suburb; 4 = Other

TABLE 10 (continued)

School System	Region	KOC	School System	Region	KOC	School System	Region	KOC	School System	Region	KOC
Leverett Union 28	5	4	Montague	3	4	Phillipston Union 1	6	4	Southampton Union 66	3	4
Lexington	1	3	Nahant	2	3	Pittsfield	3	1	Southborough Union 3	6	3
Leyden Union 18	3	4	Nantucket	4	4	Plainville	4	4	Southbridge	6	4
Lincoln	1	3	Natick	6	3	Plymouth Union 62	4	4	South Hadley	5	4
Littleton	2	3	Needham	1	3	Plympton Union 31	4	4	Southwick Union 39	3	4
Longmeadow	5	3	New Bedford	4	1	Princeton Union 64	6	4	Spencer	6	4
Lowell	2	1	New Braintree Union 12	6	4	Provincetown Union 14	4	4	Springfield	5	1
Ludlow	5	4	Newbury Union 68	2	3	Quincy	1	2	Sterling Union 64	6	4
Lunenburg	6	4	Newburyport	2	4	Randolph	1	3	Stoneham	2	3
Lynn	2	2	New Salem Union 28	6	4	Raynham	4	3	Stoughton	4	4
Lynnfield	2	3	Newton	1	3	Reading	2	3	Stow Union 47	6	3
Malden	1	2	Norfolk	4	3	Rehoboth Union 37	4	4	Sturbridge Union 61	6	3
Manchester Union 48	2	3	North Adams	3	4	Revere	1	2	Sudbury	1	3
Hansfield	4	4	Northampton	5	4	Richmond Union 69	3	4	Sunderland Union 38	3	4
Marblehead	2	3	North Andover	2	3	Rochester Union 55	4	4	Sutton	6	4
Marion Union 55	4	4	North Attleborough	4	4	Rockland	4	3	Swampscott	2	3
Marlborough	6	4	Northborough Union 3	6	3	Rockport	2	3	Swansea	4	4
Marshfield	4	3	Northbridge	6	4	Rowe Union 65	3	4	Taunton	4	4
Mashpee Union 10	4	4	North Brookfield Union	6	4	Rowley Union 68	2	4	Templeton Union 1	6	3
Mattapoisett Union 55	4	4	Northfield Union 18	3	4	Royalston Union 1	6	4	Tewksbury	2	3
Maynard	2	4	North Reading	2	3	Rutland Union 64	6	4	Tisbury Union 19	4	4
Medfield	6	3	Norton	4	4	Salem	2	2	Topsfield Union 58	2	3
Medford	1	2	Norwell	4	3	Salisbury Union 68	2	4	Truro Union 14	4	4
Medway	6	4	Norwood	1	3	Sandisfield Union 39	3	4	Tyngsborough	2	4
Melrose	1	3	Oak Bluffs Union 19	4	4	Sandwich Union 10	4	4	Tyringham Union 29	3	4
Merrimac Union 53	2	4	Oakham Union 63	6	4	Saugus	2	3	Uxbridge	6	4
Methuen	2	4	Orange	6	4	Savoy Union 43	3	4	Wakefield	2	3
Middleborough	4	4	Orleans Union 54	4	4	Scituate	4	3	Wales Union 61	6	4
Middleton	2	3	Otis Union 29	3	4	Seekonk	4	3	Walpole	1	3
Milford	6	4	Oxford	6	4	Sharon	1	3	Waltham	1	2
Millbury	6	2	Palmer	5	4	Sherborn Union 50	6	3	Ware	5	4
Millis	6	3	Paxton Union 64	6	3	Shirley Union 42	2	4	Wareham	4	4
Millville Union 44	6	4	Peabody	2	2	Shrewsbury	6	3	Warren Union 12	6	2
Milton	1	3	Pelham Union 26	5	4	Shutesbury Union 28	5	4	Warwick Union 18	3	4
Monroe Union 43	3	4	Pembroke Union 31	4	3	Somerset	4	4	Watertown	1	2
Monson	5	2	Petersham	6	4	Somerville	1	2	Wayland	1	3

TABLE 10 (continued)

School System	Region	KDC	School System	Region	KDC	School System	Region	KDC	School System	Region	KDC
Webster	6	4	West Springfield	5	4	Northboro-Southboro	6	3	Silver Lake	4	3
Wellesley	1	3	West Tisbury Union 19	4	4	North Middlesex	2	4	Southern Berkshire	3	4
Wellfleet Union 54	4	4	Westwood	1	3	Old Rochester	4	4	Spencer-East Brookfield	6	4
Wendell Union 28	6	4	Weymouth	1	3	Pentucket	2	3	Tantasqua	6	4
Wenham Union 57	2	3	Whately Union 38	3	4	Pioneer Valley	3	4	Triton	2	4
Westborough	6	3	Whitman	4	4	Plymouth-Carver	4	4	Wachusett	6	3
West Boylston	6	3	Wilbraham	5	3	Quabbin	6	4	Warren-West Brookfield	6	2
West Bridgewater	4	4	Williamsburg Union 66	3	4	Ralph C. Mahar	6	4	Whitman-Hanson	4	4
West Brookfield			Williamstown	3	3	Vocational-Technical Regional Schools					
Union 12	6	4	Wilmington	2	3	Assabet Valley	6	3	Northern Berkshire Voc	3	4
Westfield	5	4	Winchendon	6	4	Blackstone Valley Reg	6	4	Nashoba Valley Tech	2	3
Westford	2	3	Winchester	2	3	Blue Hills Voc	1	3	Northeast Metro Voc	2	3
Westhampton Union 66	3	4	Winthrop	1	3	Bristol-Plymouth Voc-			North Shore Reg Voc	2	3
Westminster Union 56	6	4	Woburn	2	3	Tech	4	4	Old Colony Reg Voc	4	4
West Newbury Union 53	2	4	Worcester	6	1	Cape Cod Reg Voc	4	4	Pathfinder Voc-Tech	6	4
Weston	1	3	Wrentham	4	3	Franklin County	3	4	Shawsheen Valley Voc-		
Westport	4	4	Yarmouth Union 11	4	4	Greater Fall River	4	1	Tech	2	3
Academic Regional Schools						Greater Lawrence	2	1	Southeastern	4	1
Acton-Boxborough	2	3	Gateway	3	4	Greater Lowell Voc-Tech	2	4	South Shore Voc-Tech	4	3
Adams-Cheshire	3	4	Gill-Montague	3	4	Greater New Bedford			South Worcester		
Amherst-Pelham	5	3	Groton-Dunstable	2	3	Voc-Tech	4	1	County Voc	6	4
Ashburnham-Westminster	6	4	Hamilton-Wenham	2	3	South Middlesex Voc-			Tri County Reg Voc-		
Athol-Royalston	6	4	Hampden-Wilbraham	5	3	Tech Reg	6	3	Tech	6	4
Berkshire Hills	3	4	Hampshire	3	4	Minuteman Voc-Tech	2	3	Upper Cape Cod Voc-		
Berlin-Boylston	6	3	Hawlemont	3	4	Montachusett Voc-			Tech	4	4
Blackstone-Millville	6	4	King Philip	4	3	Tech	6	4	Whittier Voc	2	4
Bridgewater-Raynham	4	4	Lincoln-Sudbury	1	3						
Buckland-Shelburne	3	4	Martha's Vineyard	4	4						
Central Berkshire	3	3	Masconomet	2	3						
Concord-Carlisle	1	3	Mendon-Upton	6	4						
Dennis-Yarmouth	4	4	Mount Greylock	3	4						
Dighton-Rehoboth	4	4	Mohawk Trail	3	4						
Dover-Sherborn	6	3	Narragansett	6	3						
Dudley-Charlton	6	4	Nashoba	6	4						
Freetown-Lakeville	4	4	Nauset	4	4						
Frontier	3	4	New Salem-Windfall	6	4						

APPENDIX B

Item Results by Reporting Group

This Appendix contains tables displaying the results for each item administered to students at each level.

The two tables presented here provide the following information for each test item:

- the number of the test question as it appeared in the test booklet
- a brief description of the test item
- the percentage of all students in the age group answering correctly
- the percentage answering correctly in each of the Massachusetts reporting groups defined by the variables: sex of student, region, and kind of community
- where the question was tested by NAEP, the percentage of students in the Nation and in the Northeast answering correctly
- where data is available, the percentage of Massachusetts students answering correctly during the 1974-75 assessment.

Tables 11 and 12 present this information for 9- and 17-year-olds, respectively. To compare the achievement of the two age groups on the eleven items common to both tests, the reader may refer to the item numbers on Tables 11 and 12: items 1 through 9 were identical on both tests, while item number 10 on the 9-year-old test was the same as item number 11 on the 17-year-old test, and item number 11 for 9-year-olds was the same as item number 10 for 17-year-olds.

TABLE 11

Test Item Performance of Massachusetts 9-Year-Olds by Reporting Group

Item #	Description of Item	Percentage of Students Answering Correctly															MA 1974-75
		Massachusetts												NAEP			
		All	Sex		Region						Kind of Community				Nation	Northeast	
			M	F	1	2	3	4	5	6	1	2	3	4			
	OBJECTIVE 1																
1	If you are walking, which road sign tells you what to do?	86	84	88	84	85	89	86	92	89	78	83	92	87	87	90	
10	What does the writer tell you about sports cars?	87	86	88	87	88	83	85	87	88	82	88	91	84	84	86	
12	When did Helen Keller lose her sight and hearing?	43	42	43	43	48	47	39	41	40	30	39	56	38	40	45	
13	In the story, which words tell when the buttons scattered?	76	75	77	74	78	78	75	75	76	73	77	78	75	77	78	
15	Quote: The person who said this:	81	80	81	81	83	78	79	83	78	74	79	85	80	75	78	80
16	How many reasons are given for wanting a dog instead of a cat?	88	86	90	87	88	89	90	86	88	84	86	93	86	83	85	86
22	Choose the sentence that tells what the drawing shows.	95	94	97	94	97	96	97	95	93	93	97	96	96	89	91	93
25	Which sentence tells best how Silky felt about the rain?	89	86	91	87	90	88	89	87	89	84	91	92	87	79	83	
27	Choose the group of words that tells what the sentence means.	58	55	62	56	58	62	60	57	61	51	57	65	57			
40	What does the author compare the moon to?	32	32	32	30	35	37	30	36	30	26	29	38	31	33	29	
43/44	Have you EVER or NEVER visited the moon?*	94	93	95	92	96	95	95	92	94	90	95	96	94	92	94	
46	Which of the following is true of Admiral Drake in this story?	41	38	43	38	44	47	42	36	41	32	38	47	40	57	57	
49	The nonsense word ZUP in this context probably means:	72	68	76	69	75	71	70	75	74	64	70	79	71	83	88	86

* Items 43 and 44 were combined for analysis purposes according to NAEP guidelines.

TABLE 11 (continued)

Item #	Description of Item	Percentage of Students Answering Correctly															MA 1974-75
		Massachusetts												NAEP			
		All	Sex		Region						Kind of Community				Nation	Northeast	
			M	F	1	2	3	4	5	6	1	2	3	4			
	OBJECTIVE 2																
2	The title which tells the most about this story is:	41	42	40	41	43	35	39	43	41	35	41	49	36	26	30	23
9	Place the events in a baseball game in the proper order.	59	59	59	59	59	63	57	60	58	45	57	71	56	48	50	
17	What happened first in the story?	84	84	85	83	85	82	87	80	84	80	82	89	83	83	84	
18	This story is mainly about:	87	86	88	85	88	87	88	86	87	77	88	92	88	75	79	
29	What do you think the author was trying to do?	75	73	78	72	78	77	77	72	78	67	74	82	75	75	77	
30	What did the author want you to do when you read the story?	91	89	92	90	92	89	92	87	92	86	91	94	91	84	88	
36	What did Amos do first in this story?	76	73	79	73	79	77	77	77	75	70	75	81	76	65	67	
39	Which words tell what this passage is mainly about?	78	77	79	75	80	81	80	76	79	70	79	84	77	80	85	
41	Which group of words tells how something sounds?	73	71	75	69	75	75	77	70	73	66	69	80	71	73	76	
42	The mood or feeling of this story is:	71	68	74	71	74	71	70	63	73	63	69	78	69	81	81	
	OBJECTIVE 3																
3	How could you find out if there is something about Eskimos in a book?	53	54	51	49	52	49	53	57	57	45	54	56	55	48	53	48
4	Which can of dog food contains more protein?	62	62	62	63	61	57	63	61	63	59	56	68	60	67	69	71
5	In a telephone book, you would find Mr. Jones between which names?	62	60	64	64	62	65	60	66	63	57	59	69	61	63	67	65

TABLE 11 (continued)

Item #	Description of Item	Percentage of Students Answering Correctly															MA 1974-75
		Massachusetts												NAEP			
		All	Sex		Region						Kind of Community				Nation	Northeast	
			M	F	1	2	3	4	5	6	1	2	3	4			
	OBJECTIVE 3 (continued)																
6	Map: By car, Northtown is closer to Rice Lake than to Hope. T or F?	86	85	87	84	89	87	86	87	87	81	87	90	86	79	82	
7	Map: You can drive from Northtown to Falls City on Highway 71. T or F?	89	90	88	89	88	93	90	89	89	83	90	93	90	82	82	
8	Map: Highway 20 runs on the south side of the Rice River. T or F?	64	66	61	63	61	68	63	66	66	54	65	68	65	52	56	
14	Which of these books is not about people?	64	64	64	65	66	68	63	59	61	59	64	69	62	73	78	74
26	Which of the figures below can be made by 3 crossing lines?	88	86	90	87	90	87	88	87	88	82	88	91	89	89	91	92
31	Which word best describes the TV show listed above?	84	83	85	84	84	86	81	86	84	77	86	88	82			
32	What time of day is the program presented?	66	64	67	65	67	65	67	65	64	61	65	70	63			
33	What will Bob Johnston play in the movie?	48	50	47	44	53	46	49	51	48	39	46	56	47			
35	Which book would be the best to use to learn about windmills?	60	58	61	55	62	66	60	56	63	48	53	67	62	57	67	63
38	On which pages would you find information about earthworms?	77	75	80	74	79	84	77	79	79	66	82	84	77			
	OBJECTIVE 4																
11	Miss Sullivan's teaching method chiefly made use of what?	56	56	57	56	56	53	55	56	60	48	54	63	56	54	58	
19	In the story, what could help the boy and his father now?	90	89	91	90	91	92	90	89	91	85	90	94	90	83	85	

TABLE 11 (continued)

Item #	Description of Item	Percentage of Students Answering Correctly															
		Massachusetts												NCEP		MA 1974-75	
		All	Sex		Region						Kind of Community				Nation		Northeast
			M	F	1	2	3	4	5	6	1	2	3	4			
	OBJECTIVE 4 (continued)																
20	What were most of the people in the story probably doing?	75	75	75	75	75	76	75	69	77	65	72	84	74	67	73	
21	What were the people in the story probably wearing?	93	91	94	93	93	92	91	95	92	89	94	95	92	84	89	
23	Which of these sentences tells best what Silky's web was like?	81	79	84	76	85	81	83	76	85	74	83	86	80	74	76	
24	Which of these sentences tells best how Silky felt about flies?	85	82	88	83	88	86	86	83	86	79	85	90	84	78	78	
28	Which of these objects is described in the verse above?	79	77	81	77	83	80	79	74	80	71	76	86	79			
34	Read the poem and indicate who is speaking.	62	60	64	62	63	51	61	65	61	53	63	69	61	56	58	
37	How do you know this story is make-believe?	84	81	87	81	86	88	85	82	84	77	85	88	84	75	80	83
45	If Story 2 ends like Story 1, what would happen next in Story 2?	71	68	74	70	72	69	71	70	74	61	68	81	68	66	69	72
47	Why did Mr. Popper make Captain Cook's home in the refrigerator?	72	69	76	71	76	72	72	68	73	61	70	82	70	67	70	
48	What is generally true about penguins?	66	63	69	65	68	69	67	59	67	53	59	76	66	63	67	

TABLE 12

Test Item Performance of Massachusetts 17-Year-Olds by Reporting Group

Item #	Description of Item	Percentage of Students Answering Correctly														MA 1974-75	
		Massachusetts												NAEP			
		All	Sex		Region						Kind of Community				Nation		Northeast
			M	F	1	2	3	4	5	6	1	2	3	4			
	OBJECTIVE 1																
1	If you are walking, which sign tells you what to do?	99	98	99	99	99	100	98	99	99	99	99	99	98			
11	What does the writer tell you about sports cars?	99	99	99	99	99	98	99	99	99	98	97	99	99	99	100	
12	Why do sports cars corner more easily than passenger cars?	93	95	91	90	94	95	94	96	95	89	90	94	96	89	89	94
13	How does the author say that scarlet fever is serious?	97	95	98	97	94	95	98	96	98	97	93	98	96	91	93	
14	The passage begins by telling us:	91	89	92	90	90	96	92	88	91	89	85	92	92	91	93	
23	According to the paragraph, the origins of the word "beat" are:	68	66	70	69	67	76	68	71	66	65	69	69	70	64	65	65
27	Which of these is essential to avoid ivy dermatitis?	79	78	80	75	81	81	80	82	79	76	68	80	83	85	86	89
28	Which of these will soothe the itching from ivy poisoning?	94	92	95	92	95	94	94	96	94	91	92	96	94	85	87	91
29	What should you do if the ivy poisoning affects your eyelids?	86	82	91	84	86	89	85	91	85	84	81	89	86	76	80	84
42	Danger from radioactivity is most likely to occur after:	69	70	68	66	67	75	69	74	72	65	66	73	68	68	68	69
43	The heat of a nuclear air burst can cause skin burns and fires:	83	84	82	80	84	90	84	83	83	78	78	86	83	78	76	77
	OBJECTIVE 2																
2	The title which tells the most about this story is:	72	71	74	71	74	77	72	71	72	69	68	76	70	64	68	69

TABLE 12 (continued)

Item #	Description of Item	Percentage of Students Answering Correctly														MA 1974-75	
		Massachusetts												NAEP			
		All	Sex		Region						Kind of Community				Nation		Northeast
			M	F	1	2	3	4	5	6	1	2	3	4			
	OBJECTIVE 2 (continued)																
9	Place the events in a baseball game in the proper order.	96	95	96	95	97	95	95	96	97	94	93	97	96			
15	What should a good farmer understand about nature?	74	75	73	71	74	75	74	75	75	69	70	78	72	70	70	75
16	What does the writer want us to understand about nature?	95	93	96	93	94	96	96	97	95	94	91	95	95	93	94	96
20	What is the main point of the paragraph?	27	26	29	28	23	27	27	37	26	29	27	26	28	27	27	36
22	What does the writer mean by a "fine, neglected novel"?	72	70	74	74	71	73	72	70	71	66	63	77	73	67	69	70
25	How does the writer make this story funny?	80	81	80	80	80	84	83	78	80	76	77	82	82	76	76	76
32	In which order are the following things asked for?	73	70	78	70	75	82	71	75	72	67	64	79	71	75	78	79
33	In the story, what is meant by the "abyss"?	73	71	75	74	73	77	74	74	70	70	69	76	73	80	85	
34	What does the author say about the carefully charted debts?	70	64	75	69	69	77	72	69	67	65	65	74	68	69	75	
35	Which best describes this type of human behavior?	25	23	26	26	23	26	28	19	23	25	22	27	21	26	26	
39	Which paragraph is written from a personal point of view?	68	64	71	66	70	77	67	67	68	61	62	71	71	78	78	75
	OBJECTIVE 3																
3	How could you find out if there is something about Eskimos in a book?	82	79	85	81	85	81	81	83	81	76	82	84	83			
4	Which can of dog food contains more protein?	91	91	90	89	95	93	93	89	87	88	88	93	91			

TABLE 12 (continued)

Item #	Description of Item	Percentage of Students Answering Correctly															MA 1974-75
		Massachusetts												NAEP			
		All	Sex		Region						Kind of Community				Nation	Northeast	
			M	F	1	2	3	4	5	6	1	2	3	4			
	OBJECTIVE 3 (continued)																
5	In a telephone book, you would find Mr. Jones between which names?	89	91	88	88	87	93	92	89	90	87	88	89	92			
6	Map: By car, Northtown is closer to Rice Lake than to Hope. T or F?	97	96	97	96	98	98	96	97	97	95	97	97	97	95	97	
7	Map: You can drive from Northtown to Falls City on Highway 71. T or F?	99	99	98	98	99	98	98	98	99	97	97	99	99	98	99	
8	Map: Highway 20 runs on the south side of the Rice River.	89	90	89	84	93	89	91	89	92	85	84	91	92	86	88	
17	Under what heading would you look to locate the reviews of a current movie?	74	74	73	76	71	68	77	71	73	70	70	78	71	62	67	72
18	According to the table of contents, on which page would you find science news?	99	98	99	99	98	98	99	100	99	99	98	99	99	96	98	98
19	Which article would you be most likely to find in this magazine?	72	71	73	75	72	75	71	66	70	67	68	78	68	65	73	73
21	Where would you most likely find this paragraph?	55	54	55	56	56	60	56	47	53	44	52	61	53	67	65	56
30	The maximum amount which this automobile insurance policy pays for medical bills is:	91	89	92	90	91	92	90	94	92	93	90	91	90	88	88	88
31	What is the most this policy pays if you injure another person in an auto accident?	15	18	12	12	17	17	17	16	12	14	9	17	15	19	18	18
36	Graph: Most fatal accidents occurred between which hours?	85	87	84	81	89	91	88	88	85	81	79	88	87	74	76	71

TABLE 12 (continued)

Item #	Description of Item	Percentage of Students Answering Correctly															
		Massachusetts												NAEP		MA 1974-75	
		All	Sex		Region						Kind of Community				Nation		Northeast
			M	F	1	2	3	4	5	6	1	2	3	4			
	OBJECTIVE 4																
10	Miss Sullivan's teaching method chiefly made use of what?	91	91	91	89	93	92	91	87	93	86	89	93	92	88	87	92
24	Where would you probably see this "Horsepower" sign?	70	78	62	66	74	71	72	67	68	63	65	76	67	76	77	
26	From this passage, we know for certain that:	77	79	76	78	76	83	79	76	76	68	75	80	81	83	81	
37	Graph: If bars close at 2 a.m., what may one conclude?	28	25	32	29	26	30	29	31	27	27	29	30	26	27	32	
38	Which statement goes beyond the data in the graph?	48	49	47	45	49	51	48	47	51	42	38	52	50	35	41	
40	Which paragraph shows the author's love of skiing?	59	57	61	57	61	63	52	64	62	54	57	63	57	50	54	
41	The author's problem would have been avoided if he had:	86	82	89	84	85	89	88	89	85	81	83	88	88	91	93	
44	If an object interested him, what would a Frangible do?	69	65	72	69	63	80	70	74	69	67	60	72	69	78	80	
45	According to the story, which statement seems to be false?	37	38	37	39	35	40	39	33	37	33	31	43	33	40	43	37

ACKNOWLEDGMENTS

STATEWIDE ASSESSMENT ADVISORY COMMITTEE

Fred Andelman	Massachusetts Teachers Association
Eugene Applebaum	Worcester Public Schools
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ACKNOWLEDGMENTS (continued)

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